FY01 REPLACEMENT FAMILY HOUSING

				CHEMIS	IST FIELD OBSERVATION SUMMARY	
					MILY HOUSING REVITALIZATION	LIZATION
				FC	FORT WAINWRIGHT, ALASKA	LASKA.
					FTW230	
BOREHOLE			DEPTH	DID .		
NUMBER	DATE	LIME	(in feet)	READING	AND ANALYSES DONE	
AP-7944	30 Jan	1354	-	1.9	Did not sample	Temp: -10°F, clear, no wind. Background PID: 0.6 to 2.2
	2001					No evidence of contamination - did not collect sample for chemical
						analyses.
		1410	5	6.0	Did not sample	No evidence of contamination - did not collect sample for chemical
						analyses.
		1421	10	1.4	Did not sample	No evidence of contamination - did not collect sample for chemical
						analyses.
		1429	15	6'0	Did not sample	Sample wet. No evidence of contamination - did not collect sample for
						chemical analyses.
		1446	20	0.2	Did not sample	Sample saturated. Groundwater measured at 16.4 bgs. No fuel odor or
						evidence of contamination.
		1457	25	0.0	Did not sample	No fuel odor or evidence of contamination.
		1516	30	1.1	Did not sample	No fuel odor or evidence of contamination.
		1545	35	NT	Did not sample	Could not shake heave out of augers continued to 40
		1610	40	0.4	Did not sample	No fuel odor or evidence of contamination.
		1630	50	LN	Did not sample	No fuel odor or evidence of contamination. Backfilled and grouted
						borehole.

FY01 REPLACEMENT FAMILY HOUSING

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( e c e c	30	4390	1073		W)		_		_				_						_						
IN SUMMARY					Town: 005 no wind Collinate DID Dealescends 10 to 43	Temp. V. 1, no wine. Candiate III. Dackground. 1:0 to 4:2	No evidence of contamination - did not collect sample for chemical	analyses.	No evidence of contamination - did not collect sample for chemical	analyses.	No evidence of contamination - did not collect sample for chemical	analyses.	No evidence of contamination - did not collect sample for chemical	analyses.	Sample saturated. Groundwater measured at 16.4 bgs. No fuel odor or	evidence of contamination.	No fuel odor or evidence of contamination. Backfilled and grouted	borehole.	Dropped off IDW form for estimated washwater used during equipment	decontamination.					
CHEMIST FIELD OBSERVATION SUMMARY	LY HOUSING REVITALIZATION	FORT WAINWRIGHT, ALASKA	FTW230	SAMPLES COLLECTED	Did not sample	Did not sample			Did not sample		Did not sample														
CHEMIS	FAMI	¥			3 6	?;			2.2		2.6		6.2		1.0		NT	9.0	0.5	0.7	9.0	9.0			
			de de desembre de la composição de la comp	DEPTH	(III IEEL)	<b>-</b>			5		10		15		20		25	30	35	40	45	50			
			este ia par promisa para sa pa		0803	200			0831	٠	0840		0849		0913		0925	9560	9001	1020	1029	1048			
					21 Tan	The Tr	2001																		
				BOREHOLE	AD 7045	C+//- 187													_						

**FY01 REPLACEMENT FAMILY HOUSING** 

FTW230

Appendix B

Soils and Geology Section
Soil Boring Logs

Y01					<b>AWO</b> (	7283	JSHNSG Docu	iment 17	-14	F	Filed	d 10	/31/	200	)6 Pa	ge 4 of	<b>48</b> W230
			0 0 0	<u> </u>			NGINEERS SERVICES		Fort W	ainwi	right,	Alask	a			Da	te: 19 Jan 2001
	So	oils	an				Section	Drilling Age ☐ Othe	-		<b>X</b> A	laska	Distric	ct		Elevation MSL	Datum:
	E	XF	PL(	OR	ATI	ON	LOG	Location:	Nort East	-		57,321 90,325				Top of Ho	
Hok		nber,	Field:		Permar AP-7		•	Driller: Bill Test	er		•	,	•		Inspector: Mike A	nderson	
1	e of F Test I			other uger H	lole [	] Moni	toring Well 🗶 Pi	iezometer	Pepth to		undw 3. <i>20 f</i>				Depth Drill 24.5 ft	led:	Total Depth: 26.5 ft
F	nmer 100 lb:	-	ht:	1 '	Spoon I	l.D:	Size and Type of 8.0 in Rock Bit					quipm Soil M				Type of Sai	~ ·
			683	မွှဲ မာ	#		Classification ASTM: D 2487 or D 2	488	G	rain S	ize	(Ē)	_		<u> </u>	Description	and Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	7,511152161 67.52		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water			
- 2		1	■ Nf			ML	SILT with Sand					0.8	1.1		Brown, fro with nonp POSSIBLI	lastic (NP) fin	") to moist, fine sand es, trace organics,
- 4		2		F2	4 5 2 2	SM	Silty SAND		3	76	21	0.5	0.3	30	Dark brow fines, POS	m, moist, fine SSIBLE FILL	to medium sand, NP
- 10 - 12		3			3453	SP- SM	Poorty graded SAN	ID with Silt					0.3	,	Dark brow fines, POS	m, moist, fine SSIBLE FILL	e to medium sand,
14 16 18				F2	0 1 2 3	SM	Silty SAND		2	72	26	0.5	0.4	27	fines, 10%	organics by hes of spoon	ne to medium sand, NP volume, organic odor, advanced under wieght
- 20 - 22		5			4 10 14 16	GW	Well-graded GRAV	EL with Sand				2.0	0.4				ngular to subrounded and, 1 foot of heaving
-24 -26		6			10 13 14 13	GW	Well-graded GRAV	EL with Sand				2.0	0.3		gravel, fin sand	e to coarse s	ngular to subrounded and, 2.5 feet of heaving
-24 -26 -28 -30 -30 -32 NP															Elevation Groundwardepth 13.3	20 ft	red While Drilling: at
30																	
NP.	4 Fon 94 F			solete	)	<u></u>	L.,		Proje		HOU	SING	UPGR	ADE	- FTW230		Hole Number: AP-7916

			an				Section	Drilling Agen  Other	су:	2	K Ala	aska [	Distric			Elevation MSL	. 🗆 other
	E	XP	L(	)R	ATI	ON	LOG	Location:		•		7,128 i 0,915 i				Top of Ho Elevation	
Hole AP	Num -2	ber, i	Field:		Perman AP-79			Driller: Bill Tester	•						Inspector: Mike Ar	nderson	
	e of H		□ (	other uger H	ole [	] Moni	toring Well	De	pth to		indwi				Depth Drill 24.5 ft	ed:	Total Depth: 26.5 ft
Ham	nmer \ 00 lbs	 Veigl	nt:		Spoon I. 5 in	.D:	Size and Type					juipme io <i>ii Ma</i>				Type of Sa Grab ar	amples: nd Drive
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM: D 2487 or D 2	488	%Gravel	ain Si	%Fines	Max Size (in)	PID (ppm)	% Water		Description	n and Remarks
<u>~</u> - 2	15 W	Н	Nt FA	F4	<u></u>	ML	Sandy SILT		7	39	54	~	0.4	14	Brown, fro	ozen (36"), fi se organics,	ne sand, nonplastic (i POSSIBLE FILL
- - 4 - 6 -		2			3 3 4 3	SP	Poorly graded SAI	ND					0.4		Brown, m	oist, subrou	nded gravel, fine san
- 8 10 12		3		NFS	9 15 19 20	SP	Poorly graded SAI	ND with Gravel	47	48	5	1.8	0.4	2		oist, subang	jular to subrounded sand
- 14 16		4			8 15 14 15	GW	Well-graded GRA\	/EL with Sand				2.0	0.4		Brownisi to coarse		t, subrounded gravel,
18 20 22		5			7 8 8 11	GW	Well-graded GRA	VEL with Sand				2.0	0.4			ne to coarse	ngular to subrounded sand, 6 inches of
- -24 - -26		6			12 11 11 6	GW	Well-graded GRA	VEL with Sand				2.3	0.4		gravel, fi heaving	ne to coarse sand	ngular to subrounder sand, 6 inches of
-24 - -26 - -31 -	0														Elevat Groundy depth 12	2.90 ft	it ntered While Drilling: nization Detector
<u> </u>	PA Fo								Proje								Hole Number:

0 0 0	. <b>\$</b> ₩, <b>, 1</b> 000	
c  0  0;	00 00 00	
	<u> </u>	

CORPS OF ENGINEERS ENGINEERING SERVICES

## Soils and Geology Section

	1 11100 10/01/2000	1 ago 1 or 10
Fort	Wainwright, Alaska	Date: 20 Jan 2001
Drilling Agency:	XI Alaska District	Elevation Datum:
	orthing: 3,967,019 ft	Top of Hole

_ • • • • •	_		-										<u> </u>	
EXPL	.OR	ATI	ON	LOG	Location	•	rthing sting:		57,019 91,475		<del></del> -		Top of Ho	
Hole Number, Field	d:	Permar <i>AP</i> -7			Driller: Bill Te	ster						Inspector: Mike An	derson	
Type of Hole:	other					Depth						Depth Drill	ed:	Total Depth:
☐ Test Pit 🔣	Auger Ho	ole [	☐ Moni	toring Well 🔲 I	Piezometer			15.20 f				50.0 ft		52.0 ft
Hammer Weight:		Spoon 1 5 <i>in</i>	1.D:	Size and Type 8.0 in Rock Bi					quipm Soil M				Type of Sa Grab at	amples: nd Drive
300 lbs	<del></del> !	<i>- 111</i>	i	Classification			Grain S		Τ			<del></del>	·	n and Remarks
Depth (ft) Lithology Sample Frozen	Frost Class. TM 5-822-5	Blow Count	Symbol	ASTM: D 2487 or D	2488	%Gravel	Т-	T	Max Size (in)	PID (ppm)	% Water		Безакрио	· uno iventano
-34 -36 -38 -38 -38 -38 -38 -38 -38 -38 -38 -38		13 15 17 18	GW	Well-graded GRA	VEL with San	d			2.3	0.2		gravel, fin	, wet, suban e to coarse : pot of heavi	gular to subrounded sand, some fractured ng sand
-40 - 9 -42		6 7 11 9	sw	Well-graded SAN	D with Gravei				1.0	0.2		Olive gray gravel, fin sand	, wet, suban e to coarse	guiar to subrounded sand, 2 feet of heaving
-44		10 14	sw	Well-graded SAN	D with Grave				1.5	0.3		Olive gray	r, wet, subar	ngular to subrounded
- 10		14 20 31		_						<u> </u>		sand		sand, 4 feet of heaving
-52 - -54 -56		<b>41</b>										Elevation Groundward depth 15.3	20 ft	tered While Drilling: at
-58		ŕ												
-60														
-														
1 1 1 1														
-62 -64 66 NPA Form 19-E May 94 Prev. Ed.														
-														
-66														
NPA Form 19-E	Obsolata						ject: FAMII	Y HO	מאופנו	(IPG)	RANA	- FTW230		Hole Number: AP-7918
May 94 Prev. Ed.	Onsolete	:					MAIL	. r nu	USINU	UFUI	NUE	-1111230		71 -1010

FY01 REPLACES		c√-00	263	Docu	ment 1	7-14	4	F	ilec	10	/31/	200	)6 Pa	ge 8 of	48FTW230
	ŀ			NGINEERS S SERVICES		Fort	t Wa	inwr	ight, i	Alaska	3			D	ate: 21 Jan 2001
Soils an				_	Drilling A		<b>r</b> :	(	<b>X</b> I Al	aska l	Distric	:t		Elevation MS	
EXPL(	OR	ATI	ON	LOG	Location:			ning: ng:		6,844 1,766				Top of H	
Hole Number, Field:		Permana AP-79			Driller:	ster							Inspector:	nderson	
	other				] Biii 70	Dept	th to	Gro	undw	ater:			Depth Drill		Total Depth:
☐ Test Pit ☐ A	uger H				ezometer	r			.80 ft				49.5 ft		51.5 ft
Hammer Weight: 300 lbs	1 '	Spoon I. . <b>5 in</b>	.D:	Size and Type of 8.0 in Rock Bit	of Bit:					quipm Soil M				Type of S Grab a	amples: nd Drive
4083	.5.	ŧ		Classification ASTM: D 2487 or D 24	488		Gr	ain Si	ze	(in)	(۱			Descriptio	n and Remarks
Depth (ft) Lithology Sample Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol				%Gravel	%Sand	%Fines	Vłax Size (in)	PID (ppm)	% Water			
∆ J Nf	<b>i</b> ⊥ <del> </del>		ML	SILT with Sand			<i>&gt;</i>	-8-	6	-2	1.2	9,	Brown, fre	ozen (36"), fi SSIBLE FILL	ne sand, nonplastic (NP)
- 2 ×															
- 👹 📗															
- 2		6 6 6	SP- SM	Poorly graded SAN	D with Silt						0.6		Brown, m	oist, fine sai aining, POS	nd, NP fines, some SIBLE FILL
- 6		6 4										<u> </u>		<u>.</u>	
_ 8 <b></b> ₩				l	_									<del></del>	
-	NFS	3	SP-	Poorty graded SAN	D with Silt		13	80	7	0.8	0,3	4	Brown, m	oist, fine to	medium sand
10 3		3 2 3 5	SM	, <b></b>			-							·	
-12		-													
-14					_										K 4K
- 16		6 9 9	SP	Poorly graded SAN	ID					1.5	0.4		Brown, m	ioist to wet, 1	fine to medium sand
		8										-	*		
18 0														· — —	
-20 0		5 11	SP	Poorly graded SAN	ID with Grav	el				1.5	0.3			et, subangu arse sand	lar to subrounded gravel,
- 0.		5 11 22 8													
-22 Q													<u> </u>		
-24		5	GW	Well-graded GRAV	Fl with Con	,				1.8	0.3		Olive ora	v. wet suba	ngular to subrounded
-26 6		5 17 16 12	""	Well-graded Oroxy	CE WILL COM	<b>"</b>					0.0		gravel, fir	ne to coarse	sand, 1.5 feet of heaving
		12													•
<b>−28</b>															
-30		6 8 9	GW	Well-graded GRAV	EL with San	d				2.5	0.4		Olive gra gravel, fit	y, wet, suba ne to coarse	ngular to subrounded sand
-32		10		,											
	<u> </u>			_											Holo Mumber
NPA Form 19-E	henleta	<u>.</u>				.   Pr	rojed FA		HOL	isine	HPG	7AN⊊	. FTW230		Hole Number:

0	1000			0 0				NGINEERS		Fo	rt Wa	inwr	ight, /	Alaska	3			Date:	21 Jan 2001
	Sc	ils	ar	nd				Section	Drilling A	_	у:		X Al	aska l	Distric	:t	Elevati		atum:
								LOG	Location:					6,844 1,766			Top of Elevation		452.2 ft
Hole AP	Num	ber,	Field	:	ı	Perman			Driller: Bill Te								Inspector: Mike Anderson		
	of H	ole:		othe							oth to	Gro	undw	ater:			Depth Drilled:	T	otal Depth:
1	Test F				_	ole 🗀	Moni	toring Well 🕱 Pi	 ezometer		r <del>-</del>		5.80 ft				49.5 ft		51.5 ft
i i	mer \	_	ht:	Sį		Spoon I.	D:	Size and Type of	of Bit:		1			quipm			Type of	-	
3	00 lbs	; 	<del></del>	$\perp$	2.5	5 in		8.0 in Rock Bit				Ain Si		Soil M	ax	<u> </u>	Grab		
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class.	C-729-C WI	Blow Count	Symbol	Classification ASTM: D 2487 or D 24	<b>18</b> 8		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water	Descript	oon an	d Remarks
34 36 38	_	8				8 7 8 13	GW	Well-graded GRAV	EL with San	ď				2.0	0.2		Olive gray, wet subs gravel, fine to coars gravel, 3.5 feet of he	e san	d, some fractured
-	0	9				6 6 9	SP	Poorly graded SAN	D with Grav	rel				1.5	0.3		Olive brown, wet, so gravel, fine to coars gravel, 2 feet of hea	e san	d, some fractured
-44 -46	0.0								<b>-</b>										
- - -50		10				26 26 24 22	GW	Well-graded GRAV	EL with San	d				2.0	0.2		Olive green, wet, st gravel, fine to coars gravel, 2 feet of hea Bottom of Hole 51.5	se san aving s	d, some fractured
52 - 54																	Elevation 400.71	ft untere	ed While Drilling: at
-56																	, is great total	m. u U	
-58																			
—60	}																		
62					-														
64																			
	A For y 94 f			Obso	lete	<u> </u>	<u> </u>				Proje		Y HOU	JSING	UPG	RADE	- FTW230		Hole Number: AP-7919

	So	oils	an				Section	Drilling Ag	•		X A	laska	Distri	ct		Elevation MS	
	E	XF	PL(	OR	ATI	01	LOG	Location:	Nort East			66,828 91,591				Top of H Elevation	4
lole AP		nber,	Field:		Permar AP-7			Driller: Bill Tes	ter	-		-			Inspector: Steve H	enslee	
•	e of H		□ X A	other uger H	ole [	] Moni	toring Well   F	Piezometer	Depth to		undw 7.00 f				Depth Drill 24.5 ft	ed:	Total Depth:
	mer ' 00 lb:	Weig s	ht:		Spoon ! 5 in	I.D:	Size and Type 8.0 in Rock Bit					quipm Soil M				Type of Sa Grab a	amples: nd Drive
Deptin (nt)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM: D 2487 or D	2488	%Gravel	rain S	ze saul4%	Max Size (in)	PID (ppm)	% Water		Descriptio	n and Remarks
3		'S	Nbn	ŒΕ	<u></u>	SM	Silty SAND	<u></u>	-   %	%	%	≥	0.8	%		zen (6") to i SIBLE FILL	noist, fine sand, NP
4		2		F4	2 2 3 3	ML	SILT with Sand		6	14	80	0.8	0,4	26	Brown, mo	oist, fine sar FILL	id, nonplastic fines,
10	.°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°	3		PFS	15 23 21 19	GW- GM	Well-graded GRA\ and Sand	/EL with Silt	53	40	7	0.5	0.4	2	Brown, mo	oist, rounde	d gravel, fine to medi
14	. 0	4			10 10 8 10	SP	Poorty graded SA	ND					0.5	<u> </u>	Brown, mo	pist, mediun	) sand
20		5		PFS	6 7 6 7	GW	Well-graded GRA\	/EL with Sand	55	41	4	1.5	0.3	8	Gray, wet,	subrounde	d gravel, fine to coars
24		6			15 20 25 25	GP	Poorly graded GR Sand	AVEL with				8.0	0.3		sand, 2 fee		
28 30							·								Elevatio Groundwa depth 17.0	n 426.1 ft iter Encount 10 ft	ered While Drilling: a
32											!						

FIRST BLAN	let o fri				DUSING DOCU							200	06 Pa	1	of 48
Soils		<u> </u>	ENGINEE	RING	ngineers services Section	Drilling Age  ☐ Othe	-				District			Elevation  MSL	Datum:
					LOG	Location:		-		5,799 1,327				Top of Ho	le
ole Number, 4 <i>P-</i> 6	Field:		Permane AP-79			Driller: Bill Test	ter			•			inspector: Steve He	enslee	
ype of Hole:		other uger H	lole 🖂	Moni	toring Well	iezometer	Depth to		indwa .25 ft				Depth Drille 24.5 ft	ed:	Total Depth: 26.5 ft
ammer Weig		Spli	t Spoon I. 2.5 in	D:	Size and Type of 8.0 in Rock Bit					uipm oii Ma				Type of Sa Grab ar	imples: ad Drive
Lithology Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM; D 2487 or D 2	488	%Gravel	rain Si Pues%	%Fines	Max Size (in)	PID (ppm)	Water		Description	and Remarks
<b>₩</b> 1	Npu AS'S	E.F.	Blo	ML	SILT		<b>%</b>	3%	1%E	Ma	0.4	%	Brown, fro nonplastic	zen (18") to ; (NP) fines,	moist, fine sand, POSSIBLE FILL
4 2	Poccosoco	F4	2 3 5 4	ML	SILT with Sand			23	77		0.3	21	Brown, m POSSIBLE		id, nonplastic (NP) fines,
10	(COCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		15 18 20 25	sw	Well-graded SAND	) <del>-</del>	-			1.0	0.4		Tan, mois sand	t, subrounde	ed gravel, fine to coarse
14 £	NACOCOCCA		6 9 6 3	sw	Well-graded SAND	) with Gravel				1.0	0.4		subround	ist to wet (bo led gravei, fi c (NP) fines	ottom 8" of sample), ne to coarse sand,
20 0 5 22 0	30000000		7 4 4 4	SP	Poorly graded SA	ND with Grave	el .			1.5	0.4		Gray, wel	t, subrounde and, 2 feet of	ed gravel, medium to f heaving sand
24 6			7 5 5	SP	Poorly graded SA	MD				0.5	0.4			t, subrounde and, 4 feet o	ed gravel, medium to f snow
-28 -30 -32			ă										Elevati Groundy depth 16	.25 ft	t ntered While Drilling: at nization Detector
NPA Form 1 May 94 Pre		Obsole	te			<u></u>	Proj		Y HO	USING	UPG	RAD	E - FTW230		Hole Number: AP-7921

FY.	UIH	-Ca	ise :	3:05	-cv-00	263°	Med Docur	ment 17	7-14	4	F	iled	10	/31/	200	6 Pag	ge 12 of	48TW230
	010			lali	CORP	S OF E	NGINEERS S SERVICES		Fo	rt Wa	inwr	ight,	Alask	a			Dat	e: 22 Jan 2001
-	S	Soils	s ar				Section	Drilling A  ☐ Ott	-	y:	1	<b>X</b> A	laska	Distri	ct		Elevation  K MSL	Datum:
	E	EX	PL	OF	RAT	ION	LOG	Location:		Norti East	-		66,827 91,231				Top of Hol Elevation:	e 453.1 ft
	ole Nu AP-7	mber	, Field		Perma		<del></del>	Driller:	ster							Inspector: Steve H	lensiee	
	ype of	Hole		other				I .		oth to	Gro	undw	rater:			Depth Drill		Total Depth:
	] Tes	t Pit	X	Auger	Hole [	☐ Monit	toring Well  Pi	ezometer				5.70 f				24.5 ft		26.5 ft
Н	amme 300 i		ght:	,	it Spoon 2.5 in	I.D:	Size and Type of 8.0 in Rock Bit	of Bit:					quipm Soil M				Type of Sar Grab and	-
			88	1010			Classification	100		Gr	ain Si	ze	Ê	_			Description	and Remarks
Doroth (#)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	ASTM: D 2487 or D 24	<del>1</del> 00		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water			
٤		<i>₩</i>	■Nbn	I I	<u> </u>	SM	Silty SAND with Gra	avel	+	%	%_	%	0.3	1.0	<u> </u>			oist, subrounded
	2₩															fines, POS	e and coarse : SSIBLE FILL	sand, nonplastic (NP)
-	⁻₩						····											
-	4₩	<b>X</b>		F4		ML	Sandy SILT				42	28	4.0	0.4	15	Droug me	olet fina to me	edium sand, NP fines,
	.₩	<b>2</b> 2 .			9 9 7						74	20	4.0	0.4	'3	POSSIBLE	FILL	
-		_2a_	1		6	SP	Poorly graded SAN	D								Gray, moi:	st, medium sa	ind
$\vdash$	В																	
-  -  -	10	3		NFS	20 27 34 39	GP- GM	Poorly graded GRA and Sand	VEL with Si	n	53	41	6	0.5	0.4	2	Tan, mois	t, subrounded	gravel, fine to coa
-	12																	
-	14																	
L	16	4			4 2 3 4	SP	Poorly graded SAN	Ď					4.0	0.5		Gray, moi	st, medium sa	nd
_	.0		<u>:</u>		4										-	<u>¥</u>		
+	18																	
L	20				2	SP	Poorly graded SAN	D					1.0	0.4				gravel, medium sand, 4
-		5			2 2 3 5											feet of her	eving sand	
-	22																	
<u>.</u>	24	(					<del></del>											<b></b>
0/6/E TO:		, a			6 8 10	sw	Well-graded SAND	with Gravel					0.5	0.4			subrounded et of heaving	gravel, fine to coarse sand
)  -  -	26	<u>`</u>	1	-	10								-				Hole 26.5 ft	
EXPLORATION LOG FTW230.GPJ GEO_LOG.GDT	28															Elevation	on 426.6 ft ater Encounte	red While Drilling: at
V230.G	30																t) Photo Ioniza	ition Detector
5 F	30											<u> </u>						
	32																	
N GRA	PA Fo							<del></del>	P	rojec		<u> </u>	<u> </u>	<u> </u>				Hole Number:
åLM	lay 94	Prev.	Ed. C	bsolet	te		No.			FA	MILY	HOU	SING	UPGF	RADE	- FTW230		AP-7922

							IGINEERS SERVICES		Fort V	Vainw	right,	Alaska	1			D	ate: 22 Jan 2001
<u></u>	Sc	oils	ar	_			Section	Drilling Ag ☐ Oth			<b>(X</b> ) A	aska I	Distric	t		Elevation MS	n Datum: L 🔲 other
	E	XF	L	OR	ATI	ON	LOG	Location:		rthing: sting:		6, <b>9</b> 52 1,022				Top of H Elevation	
le IP-		nber,	Field:		Permar AP-7			Driller: Bill Te	ster						Inspector: Steve h	iensiee	
•	of H			other uger H	ole [	] Monit	oring Well 🔲 F	 Piezometer	Depth		undw 6.50 f				Depth Drill 24.5 ft	led:	Total Depth:
m		Weig		Split	Spoon 5 in		Size and Type 8.0 in Rock Bit	of Bit:		1		quipm Soil M			<u> </u>	Type of S Grab a	amples:
	logy	ple	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count		Classification ASTM: D 2487 or D	2488	%Gravei	Grain S	T	Max Size (in)	PID (ppm)	% Water		Description	on and Remarks
	X Lithology	Sample	HOZY AST	Frosi TIM 5	Blow	Symbol	SILT with Sand		, 0%	%Sand	%Fines	×e ≥ 2.0	£ 2.6	W %	Brown, fr	ozen (6") to	moist, fine to coarse
2		±1±						<b>_</b>							sand, nor	iplastic (NP)	fines, POSSIBLE FILL
40000000000000000000000000000000000000		2		F2	5 4 3 3	SM	Sitty SAND with G	ravel	20	32	48	0.5	0.5	9	Brown, m FILL	oist, fine sa	nd, NP fines, POSSIBL
0		3		PFS	8 11 10 9	GW- GM	Well-graded GRA' and Sand	/EL with Silt	55	37	8	0.5	0.6	2		ioist, fine to ne and coars	coarse subrounded se sand
16		4			9 14 21 25	SP	Poorly graded SA	<b>ND</b>				1.5	0.6			noist, fine to ledium to co	coarse subrounded arse sand
20		5			13 18 17 21	GP	Poorly graded GR Sand	AVEL with				0.3	0.3		Gray, we coarse s		unded gravel, fine to
24 26		6			22 25 32 23	GP	Poorly graded GF Sand	RAVEL with				0.3	0.3	<u>.</u>		t, fine subro and, NP fine	unded gravel, fine to \$
28		<u> </u>			23										Eievat Groundy depth 16	.50 ft	

NPA Form 19-E May 94 Prev. Ed. Obsolete Project: FAMILY HOUSING UPGRADE - FTW230 Hole Number: AP-7923

FY0	1 RE	Ca	<b>€</b> E3	1691	CF400	<b>263</b> ⊭	JKSNG Docui	ment 17-	14	F	iled	10	/31/	200	6 Paç	ge 14 of	4 <b>8</b> TW230
			000	Į ,			NGINEERS S SERVICES	'	Fort W	ainwi	right,	Alask	a			Dat	e: <b>23 Jan 2001</b>
	So	oils	an				Section	Drilling Age  ☐ Other	-		DXIA	laska	Distri	ct		Elevation I	Datum: ☐ other
	E	XF	PL(	<b>DR</b>	ATI	ON	LOG	Location:	Nort East	-	-	66,839 91,022				Top of Hol Elevation:	e 453.5 ft
Hole		nber,	Field:		Permar AP-7			Driller: Bill Teste	er						Inspector; Steve H	ensi <del>ee</del>	
1 7	e of H		DXI A	other uger H	iole [	∃ Moni	toring Well	D ezometer	epth to		undw 7.50 fi				Depth Drille	ed:	Total Depth:
Har	nmer 100 lb	Weig		Split	t Spoon I		Size and Type o			Туре	of E	quipm Soil M				Type of Sar Grab and	
-		-	8				Classification		G	rain S							and Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	ASTM: D 2487 or D 24	<b>488</b>	%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water		Doodipilon	and Mornality
۴	$\overline{\otimes}$	<u>တ</u> 1	■Nbn	ш.е-	- 60	ML	SILT		- %*	88	18	_≥	0.3	%	Brown, fro	zen (20") to m	oist, subangular and, nonplastic (NP)
_ 2	$\bigotimes$															SIBLE FILL	end, nonpadata (iii )
-				:			<del></del>										
}	$\overset{\infty}{\otimes}$	2			9 10 9	SM	Sitty SAND						0.3		Brown, mo	oist, fine sand	, NP fines, POSSIBLE
- 6	$\overset{\infty}{\otimes}$				9												
8	$\overset{\times\!\!\!\times}{\otimes}$				•												
- 10	$\bowtie$			F4	3	ML	Sandy SILT		5	27	68	0.8	0.4	19	Brown, mo	oist, fine sand	, NP fines
-	$\bigotimes$	3			3332												
- 12																	
-14	0				9	SP	Poorly graded SAN	D with Gravel				8.0	0.3			st, fine subrou	inded gravel, fine sand,
-16	0	4			7 10 8				:						NP fines		
18	0													'	<u> </u>		
-		40000			7	GP	Poorly graded GRA	VEI with				0.8	0.3		Brown we	at fine subrou	nded gravel, fine to
-20		5			7 3 3 3		Sand	TEL WAI				0.0			coarse sai		<b>3,</b>
-22								<del></del>									
-24	e č				_	8151	150-p) d - 1 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0									.A. C	maland managed #15 - 45
	D C	6			6 7 9 6	SW	Well-graded SAND	with Gravel				1.0	0.4		Brown, we		nded gravel, fine to
GEO LO	. C	e e e e e e e e e e			•												
28 - 28 - 28																	
-30		7			6 11 19 29										to 35 feet,	before recove	and then floated spoon ering sample. Spoon cement and sample
24 26 26 100.601 38.01 26 20 20.00.601 38.01 20 20 20 20 30 30 20 20 20 20 20 20 20 20 20 20 20 20 20					29		-			1					lost. Decid	led to drill one ut unable to c	to 40 feet for next ollect due to 17' of pth, BOH taken at 40',
NP/	A Fori			solete	l	<u> </u>	<u> </u>		Proje		ייטעי	(CINA	UPCS	2405	- FTW230	and at his Ac	Hole Number:
10 LY10	, J-7 f	104.							FA	urii 🕹 T	1100	SHITO	יוטייט	W.U.E	- 1 11/LJU		77 7 3 64

′01	RE	Ca	SE S	1 <del>.</del> 05!	€V-M¢	263	OWEING Docu	ment 1	17-1	4	F	ilec	d 10	/31/	200	06 Pa	ge 15	of 48 W230
ini	י זחווז	بجت	103 13 113		CORPS	OF E	NGINEERS		Fo	rt Wa	inwri	ight, A	liaska	1				ate: 23 Jan 2001
.E	Sc	ils	an					1 -	-	y:		X Al	aska (	Distric	t		Elevation MSi	
	E	XF	PL(	DR	ATI	ON	LOG	Location									Top of H	
		ber,	Field:					Driller:	ester							Inspector: Steve H	enslee	
••					lolo [	Moni	itoring Well		1 '	oth to							ed:	Total Depth:
lam	mer \	Veig		Split	Spoon I		Size and Type of		<u>j</u>		Туре	of Ec	uipm				Type of S	
30	N IDS	; 	65	٠	.5 IN		<del>,                                    </del>			Gr				3A		<u></u> · <u>l</u>		n and Remarks
(III)	ology	nple	zen TM D 408	st Class. 5-822-5	w Count	loqu	ASTM: D 2487 or D 24	488	•	Sravel	and	ines	ıx Size (in	D (ppm)	Water		2000.1930	
$\neg$	三	Sar	AS	Fro	980	ές			_	%	%	₩	Ma	ā	%	sample nu	mber 6 (24.	5 ft -26.5 ft) deepest
Í							- - - -									aumpie re		
																	11-1- 40 0 8	
	ļ															Elevation Groundwa	n 413.5 ft iter Encoun	: tered While Drilling; at
42	ļ		i								i					depth 17.: PID = (Hot	out } Photo Ioni	zation Detector
44			!															
46																		
48																		
50									•							:		
-52																		
-54							ļ						•					
-56					<u>.</u>													
-58		:									ı							
-60										!								
-62																		
-64																		
							•											
NP/	Fori	m 19 Prev	  -E  Ed. 0	bsolet	e	1			1			HOU	ISING	UPGI	RADE	- FTW230		Hole Number: AP-7924
	Sole   AP-   YPE   T   Iam   36   38   40   42   44   46   48   50   52   54   56   60   62   64   66   NP/   66   NP/   66   NP/   67   68   NP/   NP/   68   NP/   NP/	SC Explore Number 1300 lbs   111 lbs   121 lbs	Soils EXF  cole Number, AP-9  type of Hole: 300 lbs	Soils an EXPL   clole Number, Field: AP-9  type of Hole:  300 lbs  Test Pit MA A  lammer Weight: 300 lbs  (ii) uden 42  44  46  48  50  52  54  60  62  64  66  NPA Form 19-E	Soils and G EXPLOR  Idle Number, Field: AP-9  Test Pit M Auger H Immer Weight: 300 lbs  Split 300 lbs  Split 40 42 44 46 48 50 52 54 56 60 62 NPA Form 19-E	Soils and Geolo EXPLORATI    Cole Number, Field:	Soils and Geology EXPLORATION    Soils and Geology   EXPLORATION	CORPS OF ENGINEERS SOILS AND GEOLOGY SECTION EXPLORATION LOG    Cole Number, Field:   Permanent:   AP-7924	CORPS OF ENGINEERS ENGINEERS ENGINEERS ENGINEERING SERVICES  Soils and Geology Section  EXPLORATION LOG    Color Number, Field:   Permanent:   AP-9   Prezometer	CORPS OF ENGINEERS ENGINEERING SERVICES  Soils and Geology Section  EXPLORATION LOG    Drilling Agenc   Other   Driller:   AP-9	CORPS OF ENGINEERS  Soils and Geology Section  EXPLORATION LOG    Drilling Agency: Other   Other	CORPS OF ENGINEERS ENGINEERING SERVICES  Soils and Geology Section  EXPLORATION LOG    Continue   C	CORPS OF ENGINEERS ENGINEERING SERVICES Soils and Geology Section  EXPLORATION LOG    Drilling Agency:	CORPS OF ENGINEERS SOILS and Geology Section  EXPLORATION LOG    Continue   Corps   Co	CORRS OF ENGINEERS SOILS AND GEOLOGY SECTION EXPLORATION LOG  Drilling Agency: Other AP-9  Dother Easting: 1,391,022 ft  Driller: AP-924  Bill Tester  Depth to Groundwater: 17.50 ft WD  Death	CORPS OF ENGINEERS ENGINEERING SERVICES  Soils and Geology Section  EXPLORATION LOG  Coedion: Northing: 3,966,839 ft Coedion: Morthing: 3,966,839 ft Coedion: Morthing: 3,966,839 ft Coedion: Northing: 3,966,839 ft Coedion:	CORPS OF ENGINEERING SERVICES ENGINEERING SERVICES ENGINEERING SERVICES  SOIIS AND GEOLOGY Section  EXPLORATION LOG  Cole Number, Field: Permanent:	Soils and Geology Section  EXPLORATION LOG  Deling Agency: 20 Alaska District Dotter: 3,966,839 ft Eavator: 3,966,839 ft Elevator: 3,966,

					cv-00	263-	JKSING Docur	ment 17	7-14	4	F	iled	10/	31/2	200	6 Pag	ge 16 of	48-TW230
							NGINEERS S SERVICES		Fo	rt Wa	inwr	ight, i	Alaska	a .			Dat	e: 24 Jan 2001
	So	oils	ar				Section	Drilling A	_	y:	(	<b>X</b> i Al	aska	Distric	t		Elevation I	Datum: ☐ other
	E	XF	PL(	OR	ATI	ON	LOG	Location	•		_	_	7,118 1,068				Top of Hole Elevation:	449.3 ft
	e Nun	nber,	Field:		Perman			Driller:	ester							Inspector: Steve H	enslee	
		lole:		other						oth to	Gro	undw	ater:			Depth Drill	1	Total Depth:
1 "	Test			uger ł	lole [	] Moni	toring Well X Pi	– ezometer		,		.40 ft				24.5 ft		26.5 ft
	nmer 3 <i>00 lb</i> :	_	ht		t Spoon I	I.D:	Size and Type of 8.0 in Rock Bit	of Bit:	·	ľ			quipm Soil <b>M</b>				Type of Sar Grab and	*
			83				Classification			Gr	ain Si	ze	Ē			<u> </u>	Description a	and Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	ASTM: D 2487 or D 2	488		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water			
10	$\overline{\otimes}$		E≪ Nbn		<u>~</u>	ML.	SILT with Sand			<i>≫</i>	*	16	2	-	-8	Brown, fro	zen (18") to m	oist, fine sand,
		11.24 43.1														nonplastic	; (NP) Tines, P	OSSIBLE FILL
-																		
- 4	F4 3 ML Sandy SILT										33	67			24	Brown, m	oist, fine sand	, NP fines, POSSIBLE
_ e	$\otimes$	2		'	3 4	m.,	oandy o.c.					"				FILL		,
-		000000			3									:				:
- E	$\bowtie$																	
-10		3		NFS	6 10 7 9	SP	Poorly graded SAN	ID		50	48	2	0.5		2	Brown, m		ine gravel, medium
-12		3336			ģ													
-					!											<u>_</u>		
-14		500000			10	GP	Poorly graded GRA	WEI with					0.3			Brown w	et fine subrou	inded gravel, fine to
16		4			10 12 13 15	Gr	Sand	WEL WAII					0.5			coarse sa	nd	
╁ "					15													
-18	٦								_									
+		110000			13	GW	Weil-graded GRAV	Fl with San	ıd				1.3			Brown, w	et. fine subrou	ınded gravel, fine to
<b>⊢</b> 20		5			13 10 7 9	3,,	TICH-BIRDER CICK	22 mai <b>4</b> 2					""			coarse sa		<b>g</b> ,
-22		10100			9													
_}	3														Ì			
용 - 24					10	GP	Poorty graded GRA	AVEL with					0.8					ded gravel, fine to
[05] 26		6			10 12 8 11		Sand									coarse sa	nd	
050 - 20 050 - 20 050 - 20	3															Elevati Groundw		red While Drilling: at
95 P																depth 13.	+U IL	e e
E _ 3(	P																	
S - 3:	2																	
EXPLORATION LOG FTWZ30.GPJ	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	40							r	)ro o		<u> </u>	<u> </u>	<u> </u>	<u> </u>			Hole Number:
Ma Ma	A For y 94 f			bsolet	e					roje FA		HOU	ISING	UPGI	RADE	- FTW230	*****	AP-7925

FY01	RE	Ca	8€E	4 <u>69</u> 0	c <b>⊽-00</b> 0	<b>563</b> €	3 <b>Ka∂</b> NG Docn	ment 17	<b>'-14</b>	F	Filed	d 10	/31/	200	)6 Pa	ge 17 c	of 48 <sup>TW230</sup>
]  a			9 B D 0	] .	CORPS	OF E	NGINEERS S SERVICES		Fort W	ainwi	ight,	Alaska	•			i	ate: 24 Jan 2001
	So	ils	an				Section	Drilling Ag			X A	laska l	Distric	t		Elevation	i
							LOG	Location:		-		7,029 10,839			-	Top of Ho	
		ber,	Field:		Perman		· · · ·	Driller:							Inspector:	lensiee	
Type		ole:		other					Depth 1						Depth Drill		Total Depth:
	rest F			uger H	lole  Spoon I		toring Well  P	iezometer of Bit:			6.50 f	t <i>WD</i> quipm	ent:		24.0 ft	Type of Sa	26.0 ft amples:
1	00 lbs	_		1 '	.5 in	1	8.0 in Rock Bit				cker .	Soil M			<u></u>		nd Drive
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Slow Count	Symbol	Classification ASTM: D 2487 or D 2	488	%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water		Description	n and Remarks
De	<u>₹</u>	- Sa	Npu SS	Fr	<u>ਲ</u>	SM	Silty SAND		%	%	%	M	0.6	8	Brown, m POSSIBL		nd, nonplastic (NP) fines,
- 2 - 4				F4	2 3 4	ML	Sandy SILT			33	67		0.9	15	Brown, m	oist, fine sar	nd, NP fines, POSSIBLE
- 6 - 8			ı		3									1			
- 10 12		3		NFS	8 9 12 11	GP- GM	Poorly graded GR. and Sand	AVEL with Sil	t 61	34	5	1.5	0.9	1		noist, fine to ne to coarse	coarse subrounded sand
- 14 - 16		4			7 14 18 17	GP	Poorly graded GR Sand	AVEL with				0.8	1.1		Brown, rr gravel, fil	noist, fine to ne sand, NP	coarse subrounded fines
18 20 22		5			9 11 10 8	GP	Poorly graded GR Sand	AVEL with				1.5			Brown, w coarse s		ded gravel, medium to
- 10/6/E 105		6		NFS	9 7 5 4	GP	Poorly graded GR Sand	AVEL with	6:	3 33	4	0.8		7	coarse s	and, 1 foot o	unded gravel, fine to f heaving sand
24 26 26 27 28 30 30 32 NP. Ma															Elevat Groundy depth 16	i.50 ft	t ntered While Drilling: at nization Detector
MA Ma	 A For y 94 i			bsole	te	- I				ect: AMIL	у но	USING	UPG	RADI	E - FTW230		Hole Number: AP-7926

Project: FAMILY HOUSING UPGRADE - FTW230

FY	1 R	€a	SE 5	<u> </u>	<b>₽₽-₽₽</b>	<u></u>	9KSING Docu	ıment 17	7-14	4	Fi	iled	10/	/31/:	200	6 Pag	ge 18 of	48FTW230
	n a in	أمحما			CORPS	OFE	ENGINEERS G SERVICES						Alask				Da	te: 24 Jan 2001
				<del></del> '			Section	Drilling Ag	-	y:		<b>X</b> Al	aska	Distri	ct		Elevation  MSL	
	E	XI	PL	OR	ATI	ON	LOG	Location:		North Easti			6,6 <b>4</b> 3 0,910				Top of Ho Elevation:	
	e Nur 2-12	nber,	Field:		Permar AP-7			Driller: Bill Te:	ster	•						Inspector: Steve H	enslee	
1	e of I		□ <b>5X</b> 1 A		lole [	7 Mon	itoring Well	Piezometer	Dep	oth to		undw 7.50 fi				Depth Drill	ed:	Total Depth:
Har		Weig		Split	Spoon		Size and Type	of Bit:		-	• •		quipm Soil M				Type of Sa	•
			88				Classification			Gr	ain Si						············	and Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	3low Count	Symbol	ASTM: D 2487 or D	2488		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water			
_ 2		1	■Nbn	<b>u</b> -		SM	Silty SAND with G	ravel		•	6	6	_2_	1.6	-8-	Brown, fro fine sand, FILL	zen to moist nonplastic (f	subrounded gravel, (P) fines, POSSIBLE
- 4		2			4 4 5 5	ML	SILT with Sand							0.7		Brown, mo	oist, fine sand	I, NP fines, POSSIBLE
- 10 - 12		3a 3b		F4	4433	ML SP	Sandy SILT Poorly graded SA	ND			45	55		0.6	11	FILL	oist, fine sand	d, NP fines, POSSIBLE
14 16 18		4		\$2	1 3 4 6	SM	Silty SAND				74	26			33	Mottled br NP fines, i	own and dar aint sewage	k gray, wet, fine sand, odor present
- -20 - -22		5			1 2 2 2	SP	Poorly graded SA	ND								Gray, wet, in a separ boring loc	ate test borin	um sand, sample taken g 2 feet <del>we</del> st of this
-24 -25 -26		6			1 3 4 7	SP	Poorly graded SA	ND								Dark gray,	, wet, fine to (	nedium sand
28 — 28 — 30 — 30					·											Elevation Groundward depth 17.5	iO ft	ered While Drilling: at ation Detector
32								<b></b> 1										
NP.		m 19 Prev.		osolete	:				P	rojec <i>FAI</i>		HOU	SING	<u>UPG</u> F	RADE	- FTW230		Hole Number: AP-7927

Corpes of Engineering Services   Soils and Geology Section   Environment Services   Soils and Geology Section   Exploration Services   College	FY0	1 RĘ	Ca	<u>\$</u> 65	M <u>F</u> 9	EV-00	<u>2</u> 63-	SKSING Docu	ument 17	-14		Fi	iled	10/	31/	200	)6 Pa	ge 19 c	of 4	FTW230
Soils and Geology Section  EXPLORATION LOG    Coallion:   Software   Software						CORPS	OF E	NGINEERS SERVICES		Fort	Wai	nwri	ght, A	Maska	l		<u></u>			
EXPLORATION LOG    Location: Northing: 3,957,000 ft Easting: 1,391,229 ft   Top of Hole Elevation: 452.6 ft		So	ils	an						-			KI Ala	aska (	Distric	t		i .		
Type of Hole:										No										452.6 ft
Type of Hole:	ı		ber,	Field:	···					ter								enslee		
Hammer Weight 300 lbs  Spit Spoon I.D: 2.5 in  Size and Type of Bit: 8.0 in Rock Bit  Acker Soil Max  Type of Equipment Acker Soil Max  Type of Samples: Grab and Drive  Description and Remarks  De	Туре	of H		_		ole [	1 Moni	toring Well		Dept	h to						•	ed:	To	•
Classification   ASTM: D 2487 or D 2488   To D 2488	Ham	mer V	Veig		Split	Spoon I		Size and Type	of Bit:		7	• •								
ML SILT with Sand  SILT with Sand  AND  AND  AND  AND  AND  AND  AND  AN				083	(4)	<u> </u>		Classification	2488		Gra	in Siz	ze	(in)				Descriptio	и апс	i Remarks
ML SILT with Sand  SILT with Sand  AND  AND  AND  AND  AND  AND  AND  AN	epth (ft)	thology	ample	rozen STM D 4(	rost Class M 5-822-4	low Coun	ymbol	ASTM. D 2467 GID	2400		Grave	Sand	&Fines	/ax Size	PID (ppm	% Water				
FILL	-			Nbn	<u>u. F.                                  </u>			SILT with Sand			•	<u> </u>	•	_=			Dark brow nonplastic	m, frozen (1 : (NP) fines,	8") to POS	moist, fine sand, SIBLE FILL
FILL	- 2 -								- — - <del></del> —							1				
S2 2 3 SM Slifty SAND with Gravel 34 47 19 0.8 0.4 20 Brown, moist, subrounded gravel, fine sand, NP fines  S2 1 2 3 SM Slifty SAND with Gravel 1.8 0.2 Brown, moist, subrounded gravel, fine sand, NP fines  SP Poorly graded SAND with Gravel 1.8 0.2 Brown, moist, fine subrounded gravel, medium sand  PFS 7 GW Well-graded GRAVEL with Sand 61 35 4 2.0 3.2 7 Brown, wet, fine subrounded gravel, fine to coarse sand	- 4	▓	2			6	SM	Silty SAND							0.6			oist, fine sa	nd, N	P fines, POSSIBLE
NP fines  NP fines  NP fines  NP fines  NP fines  NP fines	- 6					Ă.														
The subrounded gravel, medium sand  12	-10	0			\$2	2	SM	Silty SAND with G	Gravel		34	47	19	0.8	0.4	20		oist, subrou	ınde	d gravel, fine sand,
The state of the s	-		3			12 14											H. Intes			
-16	- -14	• 0														·	-			
PFS 7 10 14 9 GW Well-graded GRAVEL with Sand 61 35 4 2.0 3.2 7 Brown, wet, fine subrounded gravel, fine to coarse sand	- 16	.0	4			12 15 15 13	SP	Poorly graded SA	AND with Grave					1.8	0.2			ioist, line su	IDFOU	inded gravel, nædidm
-22 10 10 14 9 Coarse sand	- -18																	<del>_</del> -		<u> </u>
	-20		5		PFS	7 10 14	GW	Well-graded GRA	VEL with Sand	1	61	35	4	2.0	3.2	7			roun	ded gravel, fine to
GP Sand  2.3 2.8 Gray, wet, fine subrounded gravel, fine to coarse sand  Bottom of Hole 26.5 ft Elevation 426.1 ft Groundwater Encountered While Drilling: at depth 16.50 ft PID = (Hot) Photo Ionization Detector  Project:  Hole Number:	-22	K				9			· — — — —	_			•							
Bottom of Hole 26.5 ft Elevation 426.1 ft Groundwater Encountered While Drilling: at depth 16.50 ft PID = (Hot) Photo Ionization Detector  NPA Form 19-E  Project: Hole Number:			6			9 14 17	GP		RAVEL with					2.3	2.8				unde	ed gravel, fine to
depth 16.50 ft PID = (Hot) Photo ionization Detector  Project:  Hole Number:	9 - 26 0 - 26 0 - 28	<b>■</b>		1	<del>                                     </del>	18	-			+							Elevati Groundy	ion 426.1 ft rater Encou		d While Drilling: at
NPA Form 19-E Project: Hole Number:																			nizati	on Detector
NPA Form 19-E Project: Hole Number:	50 -32					<u>.</u>														
May 94 Prev. Ed. Obsolete FAMILY HOUSING UPGRADE - FTW230 AP-7928	NP.				heolei	<u> </u>				Pi			Y HOI	JSING	UPG	RADI	E - FTW230	<del> </del>		

FAMILY HOUSING UPGRADE - FTW230

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FTWZ30.GPJ

ORATION LOG

-YUI HETASE 5.	<b>03/6/-0</b>	0263-3	PKSING Docu	ment 17	<b>7-14</b>		File	ed 1	0/3	31/2	200	6 Pag	ge 21 of	f_48 <sup>FTW230</sup>
	COR	PS OF E	NGINEERS SERVICES		Fort V	Vain	wrigt 	nt, Ala	aska				Da	ite: 25 Jan 2001
Soils an				Drilling A	-		X	Alas	ka C	Distric	t		Elevation  K MSL	
EXPLO	<b>DRA</b> T	ΓION	LOG	Location:		rthin sting	-	,967,0 ,391,					Top of Ho	
Hole Number, Field:		nanent: P-7930		Driller:	ster							Inspector:	enslee	
Type of Hole: 🔲 o		-1000		1	Depth	to G	roun	dwate	er:			Depth Drill	ed:	Total Depth:
* •	ıger Hole	☐ Monif	oring Well P	iezometer	•			o ft W				24.5 ft		26.5 ft
Hammer Weight: 300 lbs	Split Spor	on I.D:	Size and Type 8.0 in Rock Bit			1 -	-	f Equi er So					Type of Sa Grab ar	•
83	(i)(i)		Classification ASTM: D 2487 or D 2	1488		Grain	Size		Œ	<u></u>			Description	and Remarks
Depth (ft) Lithology Sample Frozen ASTM D 4083	Frost Class. TM 5-822-5 Blow Count	Symbol	A31N. D 2401 OF D 2	.400	%Grave	% Cond	2   1 2   1	%Fines	Max Size (in)	PID (ppm)	% Water			
∆ ⊃ Ø Œ₹	Gra		SILT	<u></u> , .	6	9		+	2	0.8	6	Black, from	zen (18") to r	noist, coarse sand, POSSIBLE FILL
- 2														
[														
-	F2 2	SM	Silty SAND with O	rganics	23	5	4 2	23 /	1.0	0.6	22	wood, me	tal debris, di	parse sand, NP fines, iller advanced from 2 to
- 6 <u>000</u>	4											4.5 feet us	ing nyoraui	cs only, POSSIBLE FILL
- 8₩														
-10 3	F2 3	SM	Silty SAND with G	ravel	27	5	i2 :	21	1.0	0.4	28	to coarse	sand, NP fin	rounded gravel, medium es, some organics
-12	5					ŀ						present (	oots)	-
				·								ļ ¥	<del>_</del>	<del>_</del>
- 14	9		Poorly graded GR. Sand	AVEL with					2.0	1.6		Gray, wet		inded gravel, fine to
16 -	11		-											
<b>—</b> 18				. <b>_</b>										
-20 E 5	9 1 1 1	sw	Well-graded SAND	) with Gravel					3.5	0.5		Gray, wet		nded gravel, fine to
- 5 22 G	1	1											·	
24 A 6		GP	Poorly graded GR Sand	AVEL with					1.3	0.5			t, fine to coa to coarse sa	rse subrounded gravel, nd
—26 <b>3.</b> ————————————————————————————————————						+	_						of Hole 26.5 fl ion 423.3 ft	1
-28												Groundw depth 13	rater Encoun .70 ft	tered While Drilling: at
-30												HID = (HC	ay enote lon	ization Detector
32			-											
														Holo Number
32 -32 NPA Form 19-E May 94 Prev. Ed. O	bsolete					ject: FAM		ious	ing	UPGI	RADE	- FTW230		Hole Number: AP-7930

## FY01 REPLACEMENT FAMPS JUNG Document 17-14 Page 22 of 48TW230 Filed 10/31/2006 Fort Wainwright, Alaska **CORPS OF ENGINEERS** Date: 26 Jan 2001 **ENGINEERING SERVICES Drilling Agency:** Elevation Datum: Alaska District Soils and Geology Section □ Other X MSL other **EXPLORATION LOG** Top of Hole Northing: 3,967,072 ft Location: Easting: Elevation: 1,391,781 ft 446.2 ft Hole Number, Field: Permanent: Driller: Inspector: AP-16 AP-7931 Bill Tester Steve Henslee Type of Hole: other Depth to Groundwater: Depth Drilled: Total Depth: 13.20 ft WD 26.5 ft ☐ Monitoring Well 24.5 ft ☐ Test Pit X Auger Hole ☐ Piezometer Split Spoon I.D: Size and Type of Bit: Type of Samples: Hammer Weight: Type of Equipment: 2.5 in Grab and Drive 300 lbs Acker Soil Max 8.0 in Rock Bit Frozen ASTM D 4083 Grain Size Classification Description and Remarks Ξ Frost Class. TM 5-822-5 ASTM: D 2487 or D 2488 (mdd) Blow Count Max Size ( € %Gravel % Water Lithology Symbol Sample %Fines %Sand Depth 8 Nbn ML SILT 0.5 Brown, frozen (24") to moist, fine sand, 1 nonplastic (NP) fines, metallic debris with rust, POSSIBLE FILL Brown, moist, fine sand, NP fines, rusted F2 SM Silty SAND 6 48 46 8.0 0.4 12 2333 metallic and glass debris, POSSIBLE FILL 2 Brown, moist, fine sand, NP fines, trace of wood and plant debris, POSSIBLE FILL F2 SM 0.5 28 Silty SAND 54 45 2222 1 0.5 3

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CORPS OF ENGINEERS ENGINEERING SERVICES

## Soils and Geology Section

	Fort Wainwright, Alaska	Date: 26 Jan 2001
Drilling Age	•	Elevation Datum:  MS MSL  other
Location:	Northing: 3,967,005 ft Easting: 1,391,879 ft	Top of Hole Elevation: 452.1 ft

		,0010	9 <i>7</i> `	3000011	☐ Otner								(A) IVIOL	
EXPL	OR.	ATI	ON	LOG	Location:	North Easti			7,005 1,879				Top of Ho Elevation	1
Hole Number, Fiel	d:	Permane AP-79			Driller: Bill Tester	,						Inspector: Steve He	enslee	
Type of Hole:	other				De	pth to	Gro	ındw	ater:			Depth Drille	ed:	Total Depth:
☐ Test Pit ☐	Auger H	lole 🗆	Monit	toring Well 🔀 Pi	ezometer	•		.40 ft				24.5 ft		26.5 ft
Hammer Weight:	Split	t Spoon I.	D:	Size and Type of	of Bit:		Туре	of Ec	quipm	ent:		<u> </u>	Type of Sa	· .
300 lbs	2	2.5 in		8.0 in Rock Bit			A	cker S	Soil Ma	ax			Grab a	nd Drive
	25.8	#		Classification ASTM: D 2487 or D 24	ARR	Gr	ain Si	ze	<u>E</u>				Description	n and Remarks
(f) logy	Clas 822	Blow Count	8	PIO (18), D 2-10, GI D 2	100	%Gravel	2	ક્	Max Size (in)	PID (ppm)	% Water			
Depth (ft) Lithology Sample Frozen	Frost Class. TM 5-822-5	Blow	Symbol			%G	%Sand	%Fines	Max	윤	<u>×</u>			
			GM	Sitty GRAVEL with	Sand				0.8	0.5		Brown, fro fine sand, POSSIBLE	test boring	fine subrounded gravel, located in roadway, ,
- 6 2 - 8	8 32 30						40	52	1.5	0.4	17	nonplastic	: (NP) fines, high blow co	moist, fine sand, wood fibers in auger unt due to frozen soil,
	12					24	33	44	1.0	0.9	16	Brown to 0 2" piece o POSSIBLE	f wood and	noist, fine sand, NP fines, wood fragments,
-14 4a		1 2 6 7	ML	SILT						0.4		Gray to bl	ack, moist, l in auger cu	NP fines, metal debris ttings while advancing to
-16 4b		7	GP	Poorly graded GRA Sand	AVEL with	49	47	4	1.0		10	Gray, moi medium s		ounded gravel, fine to
-20° 0 5		3 2 3 6	SW	Well-graded SAND	with Gravel				0.8	0.5		Gray, wet, coarse sa		unded gravel, medium to
24 0 6		4 B 11 13	SP	Poorly graded SAI	ND with Gravel				1.3	0.4		coarse sa	ind	unded gravel, medium to
28 — 28 — 30 — 90									Elevation Groundwardepth 16.	40 ft	t tered While Drilling: at ization Detector			
Z -32														
NPA Form 19-E May 94 Prev. Ed.	Obsolet	te.				Proje		' HOU	JSING	UPGR	ADE	E - FTW230		Hole Number: AP-7932

			an	<u> </u>	NGINE	ERIN	ENGINEERS G SERVICES Section	Drilling Agen  ☐ Other				Alaska laska	<del></del>	et .		,	ate: <b>26 Jan 2001</b> n Datum: L other
	E	XF	<b>PL</b> (	OR	ATI	ON	LOG	Location:	Nort East	_		7,037 10,469				Top of H Elevation	
iole		nber,	Field:		Perman			Driller: Bill Tester	,						Inspector: Steve H	ensiee	
	e of F Test I		□ <b>1</b>	other uger H	ole 🗆	] Moni	itoring Well 🔲 1	De Piezometer	epth to		undw 5. <i>90 f</i> i				Depth Drill 24.5 ft	ed:	Total Depth: 26.5 ft
	nmer 00 lb:	Weig s	ht:	1 '	Spoon I	.D:	Size and Type 8.0 in Rock Bi					quipm Soil M				Type of S Grab a	amples: nd Drive
(¥)	ogy	ole	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	70.	Classification ASTM: D 2487 or D	2488	<u> </u>	rain Si		Max Size (in)	PID (ppm)	ater		Descriptio	n and Remarks
Depth (ft)	X Lithology	Sample	Froze	Frost TM 5	§ © Grab	Symbol	SILT with Sand		%Gravel	%Sand	%Fines	0.3	₽ 0.4	% Water	Dark brow	m. frozen (1	8") to moist, fine sand
2		1	NO	į	GIAD	, mL	SILT WILL SAIR					0.5	0.4		nonplastic	(NP) fines,	POSSIBLE FILL
4 6		2		S2	3353	SM	Silty SAND with G	Gravel	24	42	34	1.3	0.3	13	Brown, me few plant	pist, fine to croots, POSS	coarse sand, NP fines NBLE FILL
10		3		NFS	5 4 5 4	SP	Poorly graded SA	AND with Gravel	39	57	4	0.8	0.4	3	Brown, m medium s	oist, fine su and	brounded gravel, fine
14 16		4				SP	Poorly graded SA	AND					0.2	-	Brown, we	et, medium :	sand
20 22		5			2 4 3 4	SP	Poorly graded SA	AND			-	0.4	0.3		Gray, wet	, medium sa	and
24 26		6			6 7 8	SP	Poorly graded SA	AND				2.0	0.3		Gray,wet,		inded gravel, fine to
28			-		9										Groundwa depth 15.5	90 ft	t stered While Drilling: ization Detector
		m 19	<u> </u> -E						Proje	ct:		<u> </u>				·-·	Hole Number:

FYO	1 RE	EPL, Ca	ACEI	MEN 3:05-	T FAMI	LY H 263-	OUSING JKS Docur	ment 17	-14	F	ilec	l 10/	/31/:	200	6 Pa	ge 26 of	FTW230 48
				1	CORPS	OF E	NGINEERS	I -	Fort W							Date	
	Sc	oils	ar				services Section	Drilling Age	-		<b>X</b> A	laska	Distric	ct	•	Elevation [	Datum: □ other
							LOG	Location:		thing: ting:		56,556 90,776				Top of Hole	450.8 ft
1	e Nun P-20	nber,	Field:		Perman			Driller: Bill Tes							Inspector: Steve h	lensiee	
Туг	e of H			other				_	Depth t						Depth Drill	· · · · · · · · · · · · · · · · · · ·	Total Depth:
	Test I			uger I Spli	Hole [		toring Well  Pic	ezometer of Bit:			7.20 f	t <i>WD</i> quipm	ent:		25.0 ft	Type of San	27.0 ft nples:
	300 lb:	\$		;	2.5 in	1	8.0 in Rock Bit			A Frain S		Soil M	ax		T	Grab and	
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM: D 2487 or D 24	<b>188</b>	%Gravel	Sand %	%Fines	Max Size (in)	PID (ppm)	% Water		Description a	and Remarks
- 2	ın W	<u>ဖ</u>	Nbn	<u>u. –</u>	Grab	ML	SILT		- %	-8-	8	2	1.8	<u>8</u>	Brown, fro (NP) fines	ozen (24°), coa s, POSSIBLE Fi	rse sand, nonplastic LL
- 6 - 8		2		F4	3 4 4 4	ML	SILT		-	6	94		2.1	34	Brown, m organics	oist, fine sand present, POSS	, NP fines, sticks and IBLE FILL
-10 -12		3		F4	3334	ML	Sandy SILT			50	50		2.5	22	Brown, m	oist, fine sand	NP fines, POSSIE
- - - - - 18		49			1 2 3 3 3	ML	Sandy SILT						0.6		Dark gray present	, wet, fine sand	d, NP fines, organics
20  22	000000	5			2 2 5 4	SM	Sitty SAND					1.5	9.0		Gray, wet coarse sa		ded gravel, fine to
24 100 001 3001 0		6			7 7 13 13	SP	Poorly graded SAN	D					2.8		coarse sa	t, fine subround and, 4' heaving f Hole 27.0 ft	ded gravel, fine to sand
EXPLORATION LOG FTW230 GPJ GEO LOG GDT 3/9/07	)														Elevati Groundw depth 17.	on 423.8 ft rater Encounter	red While Drilling: at
Wa Ma	A For y 94 F			bsolet	te		1		Proje		/ HOL	ISING	UPGF	RADE	- FTW230		Hole Number: AP-7935

-	000							NGINEERS		Fort W	ainwr	ight, i	Alask	a			Da	te: 27 Jan 2001
-	<u> </u>	Sc	ils	an				Section	Drilling A		l	<b>X</b> Al	aska	Distric	:t		Elevation  MSL	Datum:
		E	XF	PL(	<b>DR</b>	ATI	ON	LOG	Location:		hing: ling:		6,685 0,590				Top of Ho Elevation:	
	ole I		ber,	Field:		Perman AP-79			Driller: Bill Te	ster	•					Inspector: Steve H	lenslee	
Ty	/pe	of H	iole:		-					Depth to		undw 5. <i>00 f</i> i				Depth Drill	led:	Total Depth: 26.5 ft
		est l ner '	Pit Weig		uger H Split	Spoon 1		Size and Type	iezometer of Bit:		Туре	of E	quipm			24.5 /1	Type of Sa	mples:
	30	0 lbs	5		2.	.5 in		8.0 in Rock Bit Classification			A rain S		Soil M	ax	_		Grab an	d Drive and Remarks
Denth (ft)	(u) undan	Lithology	Sample	Frozen ASTM D 4083	Frost Class TM 5-822-5	Blow Count	Symbol	ASTM: D 2487 or D 2	488	%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water			
-	2		1	Nbn			ML	SILT with Sand						6.8		Brown, fro	ozen (24"), m c (NP) fines, l	edium to coarse sand, POSSIBLE FILL
	**************************************		2			2332	ML	Sandy SILT						3.2		Brown, m POSSIBLI	oist, fine to m	nedium sand, NP fines,
-	10		3		F4	2 3 4 3	ML	SILT			7	93		2.4	38	Brown, m	olst, fine to n	nedium sand, NP fines
-	14				F4	2 1 2 1	ML	SILT			10	90		2.9	40	Gray, wet	t, fine sand, k	ow plastic fines
	18 20 22		5	To consider the second		3 4 4 4	SP	Poorly graded SA	ND					3.4		Gray, wef	t, fine to med	ium sand
06.601 3/9/01	24 26		6	000000000000000000000000000000000000000		3 6 4 5	SP	Poorly graded SA	ND					1.1		heaving :		ium sand, 6.5 feet of
FTWZ30.GPJ	28									}						Elevati Groundw depth 16	ion 423.4 ft vater Encount .00 ft	tered While Drilling: at zation Detector
RATION LOG	32															ļ		
일반			rm 19 Prev	9-E . Ed. C	bsolet	e		<u> </u>		Proj		Y HO	USING	UPG	RADI	E - FTW230		Hole Number: AP-7936

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				<u>.</u> 1			NGINEERS G SERVICES		Fort W							Dat	
						•	Section	Drilling Age	-		LXXIA	laska	Distri	ct 		Elevation MSL	Jatum:
	E	XF	<b>PL</b> (	OR	ATI	ON	LOG	Location:	Nort East	_		67,010 90,206				Top of Hol Elevation:	452.2 ft
	e Nur	nber,	Field:		Permar AP-7	-	···- <u></u>	Driller:	ler				-		Inspector:	lenslee	
Тур	e of h	•						[[	Depth to						Depth Drill 24.5 ft	led:	Total Depth:
⊢	Test nmer			4 .	t Spoon		Size and Type			Туре		quipm			24.5 N	Type of Sar	nples:
;	100 lb	<b>s</b>		т.	2.5 in	ī	8.0 in Rock Bri	<u> </u>		rain S		Soil M	ax	<u> </u>	]	Grab and	· · · · · · · · · · · · · · · · · · ·
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM: D 2487 or D 2	2488	%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water		Description	and Remarks
		1	Nbn	<u>u. p</u>		ML	SILT with Sand		•			0.3	2.6		Brown, fre		se sand, NP fines,
_ 2		888888															
4	▓			F2	3	SM	Silty SAND		9	56	35	0.8	1.4	10	Brown, m	oist, medium :	and, POSSIBLE FILL
6		2			3 2 2 2		-										
- 8	₩						— — <del>-</del> - —										
10		3		NFS	2 2 2 2 3	SP-	Poorly graded SA	ND with Silt		88	12	0.3	1.8	7	Brown, m	oist, medium :	and, NP fines
12					3												
14	0.															<del></del>	
- -16	0	4			6 5 4	SP	Poorly graded SA	ND with Gravel				0.5	1.8	-	Brown, m to coarse		ounded gravel, medium
- 18	, O,		1					-									
-	, O.		]		2	SP	Poorly graded SA	ND with Gravel				8.0	7.8				nded gravel, fine to
-	.0	5			2 3 4 8										coarse sa	ınd, 3 feet of h	eaving sand
-	0															— —	
- 24		6			7 6 7	GP	Poorly graded GR	AVEL with				0.8	1.7			, fine subroun ind, NP fines	ded gravel, fine to
- 26 - 26 - 28 - 30 - 30 - 30 - 30 - 30 - 30 - 30 - 30					5				-				<del> </del>			f Hole 26.5 ft on 425.7 ft	
28 29 -									ļ						depth 15.		red While Drilling: at tion Detector
30 - -																	
32	!																
NP Ma	A For y 94 I			bsolet	e				Proje		/ HOL	JSING	UPGI	RADE	- FTW230		Hole Number: AP-7937

FY	01	RE	rca	<b>€</b> E\0	195	-E-MOL	)263C	SHEANG Docu	ment 1	7-1	4	F	iled	d 10	/31/	200	)6 Pa	ige 29 c	of 48 W230
				000	, , 			NGINEERS SERVICES						liaska				Da	te: 28 Jan 2001
		So	ils	an	d G	eolo	gy S	Section	Drilling A		y:		XI Al	aska [	Distric	t		Elevation  MSL	Datum:
		E	XP	LC	OR	ATI	ON	LOG	Location:	•	North Easti	_	•	6,502 0,968				Top of Ho Elevation:	
	ole I		ber, i	Field:		Perman AP-79			Driller:	ester							Inspector: Steve H	enslee	
T	ype	of H		-	other				<del></del>	Dep	th to		undw				Depth Drill	ed:	Total Depth:
<b>—</b>		est F ner \	Pit Weigh	□ Au nt:	<del> </del>	iole [		oring Well X Pi	ezometer of Bit:	<u> </u>	1		of Ec	uipm	ent:		24.5 11	Type of Sa	mples:
		0 lbs	-		1 '	2.5 in		8.0 in Rock Bit				A	cker S	Soil Ma	ax			Grab an	d Drive
147 41	חבליונו (ווי)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM: D 2487 or D 24	488		%Gravel	ain Si %Saud	%Fines	Max Size (in)	PID (ppm)	% Water		Description	and Remarks
	<u>*</u>	❈	S 1	Nbn	<u>ē</u> ∉	<u> </u>	ML ML	SILT		1	%	<u> </u>	%	2	0.4	%		ozen (19") to SSIBLE FILL	moist, nonplastic (NP)
_	28	$\overset{\otimes}{\otimes}$													:				
-	48	$\overset{\otimes}{\otimes}$														40	B	aint fina to m	redium sand, NP fines,
<u> </u>	68	$\overset{\otimes}{\otimes}$	2		F2	8 10 9 7	SM	Silty SAND			8	48	44	0.5	0.7	18	POSSIBLI		redum Sand, NF mies,
	86	$\bigotimes$																	
-	- (X	$\overset{\otimes}{\otimes}$				2	WOOD	Wood Debris							1.2		Moist, wo	od debis, litt	e to no recovery,
-	10	$\overset{\otimes}{\otimes}$	3			3 4 2 2 2											inches, P	OSSIBLE FIL	drove an additional 18 L plastic silt, 30% wood by
-	12	▓	3a			2 2 2	ML	SILT								-	volume, F	OSSIBLE FI	L
-	14	×××			F2	1	SM	Silty SAND			1	77	22	0.5	0.6	28	Gray, wel	, fine to med	um sand, NP fines
	16		<b>.</b>			3 2											į		:
L	18				!														<del></del>
F	20		5			3 8 6 9	SP	Poorly graded SAN	ND					0.5	0.4		Gray, well	t, fine subrou and, 1 foot of	nded gravel, fine to heaving sand
-	-22					ğ													
206	-24	· 0.			c.														
ORATION LOG FTW230.GPJ GEO LOG.GDT 3/9/01	-26	, O.	6			8 9 10	\$P	Poorly graded SAI	ND with Gra	ivel				0.5	0.4				inded gravel, fine to heaving sand
GEO LOC	ŀ	<u> </u>	44546			18_						-					Elevat	of Hole 26.5 ft ion 422.1 ft vater Encoun	tered While Drilling: at
230.GPJ	-28																depth 13	.10 ft	zation Detector
NG FTW.	-30																		
TION LC	-32																		
			m 19 Prev	Ed. C	heole	te.				1	Proje		Y HO	USING	UPG	RADE	- FTW230		Hole Number: AP-7938
ωL	iriay	J# 1	157.		22010			<del></del>											

FY(	)1 R	Eas	ACE	1051	Evedo:	2631	ING Docu	ment 17	-14	F	iled	10/	31/2	200	6 Pag	ge 30 of	48FTW230		
	0 6 0 0			_	CORPS ENGINE	OF E	NGINEERS SERVICES	Date: A	Fort W							Dat			
	S	oils	an	d C	eolo:	gy	Section	Drilling Aq			LXXIA	laska	Distric	ct 		Elevation I	Datum:		
	E	XF	PL(	OR	ATI	ON	LOG	Location:				6,501 90,298				Top of Hole Elevation:			
	e Nur 2-24	nber,	Field:		Perman			Driller:	ster		•				Inspector: Steve H	lenslee			
1 '	e of l			other uger <del>l</del>	dolo [	Mon	toring Well	iezometer	Depth t		undw 4.20 fi				Depth Drill	ed:	Total Depth:		
Han	nmer	Weig		Spli	t Spoon I		Size and Type	of Bit:		Туре	of E	quipm			24.01.	Type of San	nples:		
-	300 Ib	s 	8	l	2.5 in	Ι.	8.0 in Rock Bit		l   G	rain S		Soil M	ax		<u> </u>	Grab and	and Remarks		
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	ASTM: D 2487 or D 2	488	%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water		Description	and Namerna		
- 2		1	Nbn	<u>u. ⊢</u>	Grab	GP	Poorly graded GRA Sand	VEL with		<u> </u>	*	0.8	0.4	*	Brown, fro coarse sa ground le	nd, bored 3" A	rounded gravel, fine to .C. pavement at		
- 4 - 6		2	Nbn	F4	23 29 17 10	ML	SILT with Sand			21	79		0.3	2	Brown, fro		5"), fine sand, NP fines,		
-10 -12	$\infty$	3		F4	2 1 3 4	M1 SP	SILT with Sand Poorly graded SAN	ID .	,	18	82		0.3	40	FILL	moist, fine sand, NP fines, POSSIB moist, fine sand			
- 14 - 16		<b>1</b>			2 2 3 4	SP	Poorly graded SAN	lD				0.3	0.4	3	Brown to	grey, wet, fine	to medium sand		
18 20 22		<b>55</b>			4 5 4 4	SP	Poorly graded SAN	ID .				0.6	0.4		Gray, wet, heaving s		m sand, 3 feet of		
-24 -26		6			5 5 7	SP	Poorly graded SAN	ND .				0.5	0.4		Gray, wet		ded gravel, fine to		
-24 -26 -26 -28 -30 -30 -32 -30 -32 -30 -32 -32 -32 -32 -32 -32 -32 -32 -32 -32															Elevation Groundward depth 14.3		red While Drilling: at		
30 				`															
NP/	4 For 7 94 F		E Ed. Ol	solet	9	J	·		Proje		HOU	SING	UPGR	RADE	- FTW230		Hole Number: AP-7939		

	000			1,			NGINEERS S SERVICES		Fort W	ainw	right, .	Alaska	9				Date	: 28 Jan 2001
	S	oils	an				Section	Drilling Ag	-		I <b>X</b> i Ai	aska	Distric	t		Elevati		atum:
							LOG	Location:		-		6,798 0,258				Top of Elevati		450.9 ft
	- Nu 2-25	mber,	Field:		Perman			Driller:					<u> </u>		Inspector: Steve H			
<b>⊢</b>		Hole:		other	AF-13				Depth t	o Gro	undw	ater:			Depth Drill		7	Fotal Depth:
	Test	Pit	<b>X</b> A	uger F				ezometer			5.40 ft				49.5 ft			51.5 ft
	nmei 300 II	r Weig bs	ht:	,	t Spoon 1. 2. <b>5 in</b>	.D:	Size and Type of 8.0 in Rock Bit		:			quipm Soil M				Type of <i>Grab</i>	Sam and	•
			4083	2-5	rut rut		Classification ASTM: D 2487 or D 24	488		irain S	ize	e (in)	Œ			Descrip	tion ar	nd Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol			%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water				
	$\overline{\otimes}$	1	H		- 44	ML	SILT				٦	_	0.2		L POSSIBLE	E FILL		(NP) fines,
_ 2		XXX				SM	Sitty SAND								Brown, me POSSIBLE	oist, fine t	to med	lium sand, NP fines,
- 4		2		NFS	2 2 2 2 2	SP- SM	Poorly graded SAN and Gravel	ID with Slit	28	60	12	1.5	0.3	18	Brown, me	oist, fine 1	to med	dium sand
-					_				-						8		·	
-	0000	3		\$2	2 2 2 3	SM	Silty SAND with Gr		20	53	27	1.0	0.3	9	Brown, m		w mec	eum sano
- 14 - 16		4			4 6 6 5	SP	Poorly graded SAN	<b>ID</b>				0.5	0.3		Brown, m	oist, fine s	to med	dium sand
- 18 - - 20		5			3785	SP	Poorly graded SAN	ND				1.0	0.4		Gray, wet	, fine to n	nediun	n şand
- 22 24 24	0,00	6			5 9 7	SP	Poorly graded SAN	ND with Grave	el			1.3	0.6		Gray, wet	, subrour and, 1.5 fe	nded g	ravel, medium to neaving sand
03 FTW230.GFJ GEO	0000	0 7			4 8 13 17	SP	Poorly graded SAF	ND with Grave	el			1.0	0.7		Gray, wef	and, samp	oler po	ravel, medium to ssibly lost sand g sand
NP NP	امرا A Fo	orm 19			1	1	1		Proje				<u> </u>					Hole Number:
꿃 Ma	y 94	Prev.	Ed. O	bsolet	е				F	AMIL	Y HOL	JSING	UPGI	RADE	- FTW230			AP-7940

					d^E0M	163+U	PKSIND ocun	nent 17	7-14	4	Fi	led	10/	31/2	200	6 Pag	ge 32 of	48FTW230
1 5	, , ,			ı			NGINEERS S SERVICES		Fo	ort Wa	inwr	ight,	Alask	a		<u>.                                    </u>	Dat	te: 28 Jan 2001
	So	oils	an				Section	Drilling A ☐ Ot	-	cy:		<b>X</b> A	aska	Distri	ct		Elevation	Datum:  other
	E	XF	PL(	OR	ATI	ON	LOG	Location	•	Nortl East			6,798 0,258				Top of Hol Elevation:	
1	Nun 2-25	nber,	Field:		Perman AP-79			Driller: Bill Te	ester							Inspector: Steve H	lensiee	:
1	e of h		D A		Hole [	1 Monit	oring Well	- ezometer	De	pth to		undw 5.40 fi				Depth Drill 49.5 ft	led:	Total Depth: 51.5 ft
Har	nmer	Weig		Spli	t Spoon I		Size and Type o		<b>!</b>		Туре	of E	quipm Soil M				Type of Sar	mples:
<u>`</u>	, o , D	•	6			Γ Τ	Classification			G	ain Si							
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	ASTM: D 2487 or D 24	188		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water	:	Description	and Remarks
-34	.0.																,	
-36	.0		]										-					
-38	.0.																	
-40	0.0	8			5 5 10 10	SP	Poorty graded SAN	D with Grav	rel				1.5	0.6		Gray, wet,	, subrounded	gravel, fine to coarse
-42		0.00000			iŏ													
-44	.0			:								·						
- 46	.0.																	
-48	0																	
- -50	0	9			20 28 35 38	SP	Poorly graded SAN	D with Grav	⁄el				1.0	0.6			, subrounded et of heaving	gravel, fine to medium sand
- 52					, Jan											Elevation Groundwa		red While Drilling: at
-54																depth 15. PID = (Ho	40 ft t) Photo Ioniza	ition Detector
-56													!					
0/6/ -58																		
0 100.0 60																		÷
평 - 62 - 62																		
64 64							-											
EXPLORATION LOG FTW230.GPJ GEO LOG.GDT 3/9/01  W Z	1																	
NP.	A For y 94 F			bsolet	e				F	roje:		HOU	SING	UPGI	RADE	- FTW230		Hole Number: AP-7940

FY	01	RĘ	Plas	<b>6</b> 5	<b>MEN</b>	CV-002	<b>1</b> 834	KSING Docur	nent 17	7-14	4	Fi	led	10/	31/2	200	6 Pa	ae 33 of	48 <sup>FTW230</sup>
	00					CORPS	OF E	NGINEERS SERVICES						4/ask				Da	
-	(	So	ils	an	_			Section	Drilling A	_	y:	C	<b>X</b> I Ala	aska !	Distric	t		Elevation MSL	Datum:  other
		E)	KF	)L(	OR	ATI	ON	LOG	Location:		North Easti	-	-	6,870 0,534				Top of Ho Elevation:	
1	le N		ber,	Field:	· <u>u</u>	Perman			Driller:	ster	•		•	,			Inspector:	lenslee	
_		·	ole:		other			<u> </u>	1	Dec	th to	Grou	ındw	ater:			Depth Drill	led:	Total Depth:
1 .	•	st P			uger i	Hole [	) Monit	toring Well  Pic	ezometer	•			.20 ft				49.5 ft		51.5 ft
На		er V Ibs	Veig	ht:		t Spoon i 2.5 <i>in</i>	.D:	Size and Type of 8.0 in Rock Bit	of Bit:		•			oil M				Type of Sa Grab ал	•
Depth (ft)		Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM: D 2487 or D 24	188		%Gravel	ain Siz	e e	Max Size (in)	PID (ppm)	Water		Description	and Remarks
l a	×	<u>5</u>	<i>ගී</i> 1	₽Ą.	Œ₽	ă	ගි GM	Silty GRAVEL with	Sand		%	%	%	0.3	0.7	%		ozen (18") mo , NP fines, PO	ist, subrounded gravel, SSIBLE FILL
-	2 🔯	XX.																··· — — <del></del>	
F	4																		
-			2			3 5 7	SP	Poorly graded SAN	D						0.5		Brown, m	oist, medium	sand
-	0					7													
	8																		
_1 -	0		3		NFS	3 5 6 7	SP- SM	Poorly graded SAN and Gravel	D with Silt		38	56	7	1.5	0.5	3	Brown, m coarse sa		rounded gravel, fine to
-1	2																		
-1 -	4	о <u>(</u>	4			7 10 9	SP	Poorly graded SAN	D with Grav	ei				0.8	0.4		Brown, w		unded gravel, fine to
-	Γ.	0				8													
}	~	o. (	(7.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1			_	SP	. Producereded CAN	ID width Cray	امر				0.8			Brown w	et fine cubro	ounded gravel, fine to
2  -	0	- 1	5			5 6 6 5	J.	Poorly graded SAN	D WILL GIAY	E				0.0			coarse sa		grator, mo to
-2	_P.																		
	4	0.								į								_	
8 601 3		0	6			8 5 6 6	SP	Poorty graded SAN	ID with Grav	/el				0.8					nded gravel, fine to f heaving sand
0	a	0	<u></u>			6													
O GPJ C	8	0																_	
FTWZ3	30	0.	7			4 7	SP	Poorly graded SAN	ID with Grav	rel				1.3				t, fine subrou and, 4 feet of	nded gravel, fine to heaving sand
NO I	32	0.				11													
LORAT N	PA		n 19		<u>l.</u>			<u> </u>		F	Proje			<u></u>	<u>                                     </u>				Hole Number:
å[M	ay	94 P	rev.	Ed. O	bsole	te					FA	MILY	HOU	ISING	UPGI	RADE	- FTW230		AP-7941

FY0	1 R	EPL	ACE				PRSING ocur	nent 17						31/2	2006	6 Pag	ge 34 <u>o</u>	f 48FTW230
_				<u></u>	ENGINE	ERIN	ENGINEERS G SERVICES	Drilling A					Alask  aska	a Distri	 ct			ate: 29 Jan 2001 n Datum:
							Section	□ Ot	-	<i>.</i>							■ MS	
	E	XF	PL(	OR	ATI	0	LOG	Location	•	Norti East	_		6,870 0,534				Top of H Elevation	
	e Nun 2-26	nber,	Field:		Permar AP-7			Driller:	ester							inspector: Steve i	lenslee	
1 "	e of h			other uger H	loie [	□ Mon	itoring Well	riezometer	De	pth to		undw 1.20 fi		•		Depth Dril 49.5 ft	lled:	Total Depth: 51.5 ft
Нал	nmer	Weig		Split	Spoon		Size and Type 8.0 in Rock Bit	of Bit:	J <u> </u>	T			quipm Soil M			L	Type of S	amples: nd Drive
<b>├</b> `	10 12		g				Classification			<u> </u> Gr	ain Si			<u> </u>			<del></del> -	n and Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	ASTM: D 2487 or D 2	2488		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water		Dosonpad	TOTAL TOTAL
	. O.	ű	μ¥	ŭĖ	<u> </u>	<u>(y)</u>				%	%	%	Ž	<u> </u>	%			
-36																		
-40 -42 -44 -44	0.0000	8			6 8 10 9	SP	Poorly graded SAN	iD with Grav	vel		Gray, wet, fine subrounded gravel, fine to coarse sand, 2 feet of heaving sand							
- -48	0000	9			8 11 9	SP	Poorly graded SAN	ND with Grav	⁄el				1.0			coarse sa	and, 2 feet of	unded gravel, fine to heaving sand
- 52 - 54 - 56 - 58 - 58 - 60 - 62 - 64 - 66 NP/ May			The state of the s													Elevati Groundw depth 14.	.20 ft	tered While Drilling: at ization Detector
NP/	A For y 94 f			Projec <i>FA</i>		нои	SING	UPGF	RADE	- FTW230		Hole Number: AP-7941						

FY0 <sup>-</sup>					CA-00	263-	JKS Docu	ment 17	7-14	4	F	iled	10/	/31/2	200	6 Pa	ge 35 o	f 48
		4	000	.I			NGINEERS SERVICES				inwri	ght, A	Alaska	•		<u> </u>	Da	nte: 29 Jan 2001
	Sc	ils	ar				Section	Drilling A	_	y:	ſ	XI Ak	aska I	Distric	t		Elevation  MSI	
	E	XF	Ľ	OR	ATI	ON	LOG	Location:		North Easti	-		6,466 0,295				Top of Ho Elevation	
Hole		ber,	Field:		Perman			Driller: Bill Te	ster							Inspector: Steve H	ienslee	
Туре	of H			other			A	_	Dep	oth to		undwa				Depth Drill	ed:	Total Depth:
	rest F mer \			Split	Spoon i		Size and Type of	ezometer of Bit:	<u></u>	7	Туре	of Ec	quipm			25.0 K	Type of Sa	ımples:
31	00 lbs	i		2	.5 in		8.0 in Rock Bit						Soil M	ax		<u> </u>		nd Drive
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM: D 2487 or D 2	488		%Gravel	ain Si %Saud	#Fines	Max Size (in)	PtD (ppm)	% Water		Description	and Remarks
-		1	Nbn	ŒF.		ML	SILT			*	- 6	6	2	0.8	6	Brown, fro POSSIBLI		onplastic (NP) fines,
- 2 -															-		:	
- 4 - - 6		2		PFS	5 6 6 4	SM	Sitty SAND				80	20		0.0	6	Brown, m	oist, fine to a	nedium sand
- - 8																		:
- 10		3		NFS	2 2 2 1	SM	Silty SAND				87	13		0.3	6	Brown, m	oist, fine to 1	nedium sand
—12 -															and the second			
- 14 - - 16	. O.	4			13 14 7 7	SP	Poorly graded SAN	iD with Grav	rel				1.5	-0.2		Gray, wet fine to co	i, fine to coa arse sand, 1	rse subrounded gravel, foot of heaving sand
- 18	.0.																	
—20 		5	-		6 7 5 7	SP	Poorly graded SAN	ND with Grav	⁄el				1.3	0.2		Gray, wet	t, fine to coa arse sand, 4	rse subrounded gravel, feet of heaving sand
-22 -24	0,0				'													
<del>ة</del>	.0.	6			10 8 4	SP	Poorly graded SAI	ND with Grav	vel				1.3	0.5				rse subrounded gravel, feet of heaving sand
26 — 26 — 28 — 30 — 32 — NP. Mari					3				-							Elevati Groundw depth 14	.00 ft	tered While Drilling: at
90 																PID = (HC	oij rnoto lon	ization Detector
-32 NOL																		
NP.	A For y 94 F			bsolet	e				F	roje <i>FA</i>		/ HOL	JSING	UPGI	RADE	- FTW230		Hole Number: AP-7942

FY	)1 R	Ca	SE 5	MEN.	CV-OU	<del>6</del> 343	NG Docur	nent 17	7-14	4	Fi	iled	10/	/31/	200	6 Pa	ge 36 of	48FTW230
				1	CORPS	OF E	NGINEERS SERVICES				inwr	ight, .	Alask	a		·	Dar	•
	S	oils	ar				Section	Drilling A	_	y:	(	XI AI	aska	Distri	ct		Elevation XI MSL	Datum:
	E	XF	PL	OR	ATI	ON	LOG	Location:		Norti Easti	-	-	6,539 0,588				Top of Hol Elevation:	
- 1	e Nur P-28	nber,	Field:		Perman			Driller:	ster					·		Inspector: Steve h	ienslee	
ļ		lole:		other						oth to	Grou	undw	ater:			Depth Drill		Total Depth:
$\vdash$	Test			<del>-</del>			<del>, .                                </del>	ezometer				.50 ft				49.0 ft		51.0 ft
- 1	nmer 300 lb	_	ht:		t Spoon I. 2.5 in	.D:	Size and Type of 8.0 in Rock Bit	of Bit:					quipm Soil M				Type of Sat Grab and	•
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	Classification ASTM: D 2487 or D 24	<b>48</b> 8		%Gravel	ain Sand	e seules	Max Size (in)	PID (ppm)	% Water		Description	and Remarks
100	$\overline{\otimes}$	4	Nbn	ш.	Grab	ML	SILT	·····	_	6	6	6		1.6		Brown, Fi		nplastic fines,
- 2						-												
	▩	200000		F4	,	ML	SILT with Sand				26	74		0.9	16	Brown m	oiet fina to m	edium sand, NP fines,
-		2		54	3 3 3	mL	SILI WILL SAIL				20	, 4		0.5	10	POSSIBL		culum sana, isi isica,
	$\bigotimes$																	
- 8																	<del>-</del> -	
-10		3		\$2	3 3 5 5	SM	Silty SAND				<b>8</b> 7	13		1.6	6	Brown, m	oist, fine to m	edium sand
-12					5				i									
- "																<u> </u>		
14		4			4	SP	Poorly graded SAN	D with Grav	el							Brown, w	et, fine to med	lium sand
16	}				2											<del>¥</del>		
  -18	3	<u> </u>						<del></del> +			٠					<u> </u>	<u> </u>	
-	0				3	SP	Poorly graded SAN	D with Grav	el				0.8			Gray, wet	, fine subroun ind. 2 feet of h	ded gravel, fine to
-20  -	0.0	.5			3 6 8											coarse sa	mu. ∠ 1861 of N	Sarilly Salia
-23	0.0	1																
10/6/6	0.	) -			4	SP	Poorty graded SAN	D with Grav	rel				1.5			Gray, wet	, fine subroun	ded gravel, fine to
76 - 26 - 26	.0.	6			4 6 20 40		y g w/11			į						coarse sa	and, 2 feet of h	eaving sand
GEO LOG	0.0																	
	3 · C																	
FTW230 GP.J	0.0	7			21 25 25 21	SP	Poorly graded SAN	ID with Grav	rel				1.8			Gray, well	, fine subrour and, 4 feet of h	ided gravel, fine to leaving sand
	2 0				21												•	
M H 3	PA F	1 40		<u> </u>						rois:								Hole Number:
S Ma	A For y 94 I			bsolet	e					rojec <i>FA</i>		нои	SING	UPGI	RADE	- FTW230		AP-7943

FYO	)1 R!	EG J	AGE.	3.65 <sup>N</sup>	-E-F-600	263	igKsing Doci	ument 1	17-1	14	F	ilec	d 10	/31/	/200	06 Pa	ge 37 d	of 48 TW230
	000			<u> </u>			NGINEERS G SERVICES				inwr	ight, A	Alaski	<del>}</del>			<del>,</del>	ite: 30 Jan 2001
_	Sc	oils	ar				Section	Drilling #	-							Elevation Datum:		
	E	XF	PL(	OR	ATI	ON	LOG	Location		North Easti			6,539 0,588				Top of Ho Elevation	
1	Num -28	nber,	Field:		Perman AP-79			Driller:	ester	Inspector						Inspector: Steve H	ensiee	
1 ''	e of H			other uger H	lole [	1 Man	itoning Well	Piezometer	1 7	pth to		undw 5.50 ft				Depth Drill 49.0 ft	ed:	Total Depth: 51.0 ft
Han	nmer '	Weig		Split	Spoon I		Size and Type 8.0 in Rock Bit	of Bit:	<u> </u>				quipm Soil M				Type of Sa Grab ar	•
			083	oro.	=		Classification ASTM: D 2487 or D 2	2488		Gr	ain Si	ze	Ξ				Description	and Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	A31M. D 2467 G D 2	2400		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water		•	
-34						37			"				-		_		· · · · · ·	
-36																		
-38														i				
40		8			10 11 13 8	SP	Poorly graded SA	ND				:	0.6	0.7	į	Gray, wet, coarse sa	fine subround, 3.5 feet o	nded gravel, fine to f heaving sand
-42																		
-44																		
<b>-46</b>							·											
48				-	9 7	SP	Poorly graded SA	ND					0.5	1.1				nded gravel, fine to heaving sand
-50		9			9 14			**** · · ·				-				Bottom of	Hole 51.0 ft	
-52 - -54															<b>!</b>	Groundwa depth 15.	ater Encount 50 ft	ered While Drilling: at
-													,					
-56																		
5 - 58																	•	
60																		
ਰੂ  -  -62																		
EXPLORATION LOG F1W230 GFJ GEO LOG GD 1 3990 GF																		
201_ 01_ 02_ 06_ 06_																		
NP Ma	A For			) )bsolet	<u> </u>		. 1		Ī	Proje <i>FA</i>		/ HOL	JSING	UPGI	RADE	- FTW230	<del></del>	Hole Number: AP-7943

FY01 REPLACE Case 3	MENT FAM	1143HG	USING Docur	nent 17	'-14	F	iled	10/	/31/2	200	6 Pag	ge 38 o	f 48 <sup>FTW230</sup>
	CORP	S OF EN	IGINEERS SERVICES		Fort W							1	ate: 30 Jan 2001
Soils ar				Drilling Ag			XX A	iaska	Distri	ct		Elevation XX MS	
EXPL	ORAT	ON	LOG	Location:	Nort East			7,065 30,532				Top of H Elevation	
Hole Number, Field:	Permai			Driller: Bill Te	ster						Inspector: Steve H	enslee	
Type of Hole:		7 Manita	ning Mark Di Di	_	Depth to		undw 6.40 f				Depth Drift		Total Depth:
Hammer Weight:	Split Spoon		Size and Type of	ezometer of Bit:		Туре	of E	quipm			<u> </u>	Type of S	amples:
300 lbs	2.5 in	T	8.0 in Rock Bit			A rain S		Soil M	ax	Τ			nd Drive
Depth (ft) Lithology Sample Frozen ASTM D 4083	Frost Class. TM 5-822-5 Blow Count	Symbol	Classification ASTM: D 2487 or D 24	188	%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water		Descriptio	n and Remarks
Nbn	LF M		SILT		-   %	%	%	2	1.9	<u> </u>	Brown, fro POSSIBLE		onplastic (NP) fines,
- 6 2	F4 3 3 3 3 3 3 3	ML	SILT			7	93		0.9	31	Brown, mo	pist, fine to (	nedium sand, POSSIBLE
-10 3 312 3	NFS 8 8 11 8	GP	Poorly graded GRA Sand	VEL with	51	45	4	0.8	1.4	2	Brown, mo medium sa	oist, fine sul and	prounded gravel, fine to
14 16 18	55 33 3	SP	Poorly graded SAN	D				0.4	0.9		Brown, mo medium sa		prounded gravel, fine to
-20 5 -22	S2 1 2 2 3 3	SP	Poorly graded SAN			96	4		0.2	27	Gray, wet,	fine to med	ium sand
6 — 24 <b>6</b>	3 10 10 10	GP	Poorly graded GRA Sand	VEL with				1.0	0.6		Brown, we medium sa	t, fine subr and, 2 feet o	ounded gravel, fine to f heaving sand
24 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	2 1 0.5 0.5 1	GP	Poorly graded GRA Sand	VEL with			A de la desta de la desta de la desta de la dela dela dela dela dela dela de	0.8	1.1		medium sa	and, overdro	unded gravel, fine to ove spoon 1 foot due to s of .5, 5 feet of heaving
NPA Form 19-E May 94 Prev. Ed. Ol	bsolete	<u> </u>			Project FA		HOU	SING	UPGR	ADE -	- FTW230		Hole Number: AP-7944

FY0	1 RE	Ċa.	AC 5	MEN.	J.F.OM	263 <sup>+</sup>	GHSING <sub>Docu</sub>	ment 1	7-1	4	F	iled	10/	31/2	200	6 Pa	ge 39 of	48 <sup>TW230</sup>
	000		000				NGINEERS S SERVICES		Fo	rt Wa	inwr	ight, A	Alaska	1			I	te: 30 Jan 2001
	Sc	oils	an				Section	Drilling A	-	у	l	X Al	aska i	Distric	t .		Elevation Datum:  X MSL other	
							LOG		Location: Northing: 3,967,065 ft								Top of Hole	
Hole			Field:		Perman				Easuig. 1,390,532 R						Inspector:	Elevation: 451.4 ft		
AP	-29		····		AP-79				Bill Tester						Steve Hensiee			
"	e of H Test f			other uger H	lole [	] Moni	itoring Well	 Piezometer	Dep	Depth to Groundwater: De 16.40 ft WD						Depth Drill 49.5 ft	led:	Total Depth: 51.5 ft
	nmer '	_	ht		Spoon I .5 in	.D:	Size and Type 8.0 in Rock Bit						quipm Soil <b>M</b>				Type of Sa Grab an	•
			4083	တ္တံတု	ŧ		Classification ASTM; D 2487 or D 2	2488		Gra	ain Si	ze	(in)	<u></u>			Description	and Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4	Frost Class. TM 5-822-5	Blow Count	Symbol				%Grave	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water			
-34 -36 -38 -40																heaving s	and, 5 feet of	le at 34.5 feet due to heaving sand le at 39.5 feet due to heaving sand
44 46 48 50		3			20 21 15 18	SP	Poorty graded SAI	ND					0.5	0.4		medium s	and, 3.5 feet	nded gravel, fine to of heaving sand
52 54					10											Elevati Groundw depth 16.	40 ft	ered While Drilling: at
-56																		
-58 -60																		
58 - 58 - 60 - 62 - 64 - 64 NP. Ma											The state of the s	The state of the s	The state of the s				·	
NP.	A Fon y 94 F			bsolet	e e	<del></del>			F	Projec FA		HOU	ISING	UPGF	ADE	- FTW230		Hole Number: AP-7944

FYC	11 R				· · - ·		IGK SING Docu	iment 17					/31/	200	)6 Pa	ge 40 o	f 48 <sup>TW230</sup>
		<u> </u>		<u> </u>	ENGINE	ERIN	ENGINEERS G SERVICES	Drilling Ag	Fort Wi				a Distric			Da Elevation	te: 31 Jan 2001 Datum:
							Section	☐ Othe								Top of Us	
	E	XF	<b>,</b> L(	OR	ATI	ON	LOG	Location:	Nort East			6,849 0,890				Top of Ho Elevation	
	e Nur 2-30	nber,	Field:		Perman AP-7			Driller: Bill Tes	ter						Inspector: Steve h	iensiee	
1 ''	e of I	Hole: Pit		other uger h	-lole [	] Mon	itoring Well	riezometer	Depth to		undw 5.40 fi				Depth Drill 49.5 ft	ed:	Total Depth: 51.5 ft
	nmer 800 lb	Weig	ht:		t Spoon I	I.D:	Size and Type 8.0 in Rock Bit					quipm Soil M				Type of Sa Grab ar	•
			1083	ري ني	#		Classification ASTM: D 2487 or D 2	2488	G	rain S	ize	( <u>i</u> .	٦			Description	and Remarks
Depth (ft)	Lithology	Sample	Frozen ASTM D 4083	Frost Class. TM 5-822-5	Blow Count	Symbol	7.00.00.00.00.00.00.00.00.00.00.00.00.00		%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water			
-		S	Nbn			ML	SILT	V.		6	6	0.3	3.6	6	Dark brov nonplasti	vn, frozen (18 c (NP) fines, l	") to moist, coarse sand, POSSIBLE FILL
- 2																<del></del>	
4				F2	6	SM	Silty SAND			55	46		2.2	7	Brown, m	oist, fine san	d, NP fines, POSSIBLE
- 6	▓	2			5 5 5										FILL	-	
- 8	$\overset{\otimes}{\sim}$					!			_								
10		3		PFS	3 4 6	GP-	Poorly graded GR and Sand	AVEL with Silt	58	37	5	1.8	2.6	2	Brown, m medium s	oist, fine sub and	rounded gravel, fine to
12					10												
-14	• 0				40	en	Pandy and SA	NO with Conve				10	62		Rzowo za	niet fine sub	angular gravel, fine to
16	0	4			10 20 15 12	SP	Poorly graded SA	ND WITH Grave	'			1.0	6.2		coarse sa		angula gravel, into to
18	о. Д								-								. <b></b>
-20		5			5 9 11 8	SP	Poorly graded SA	ND				0.5	1.0		Gray, wel		jular gravel, fine to
- 22					11 8												
- § -24	0							- <del></del>							<b></b>		
8. LGS. — 26	°O.	6			15 22 22 20	SP	Poorty graded SA	ND with Grave	d			1.3			Gray, we coarse sa	t, fine subrou and, NP fines	nded gravel, fine to , 1 foot of heaving sand
0]	°o	•			20				ļ								
230.GPJ	0	0			11	SP	Poorly graded SA	ND with Grave	<u> </u>			1.5	0.6		Grav. we	t, fine subarx	gular gravel, fine to
	0	7			11 11 19 16	J	Toony graded SA	"-P Mint Oldic				,			coarse s	and, 2 feet of	heaving sand
Wa Wa Markion Log	<b>2</b> 0	0															The Alexander
이 NP Ma		rm 19 Prev.		bsole	e				Proje		Y HOU	JSING	UPGI	RADE	- FTW230		Hole Number: AP-7945

FY01 REPLAC	GEMES	TcV-00	263-	OKSING Docu	ment 17	-14		Fi	iled	10/	/31/2	 200	)6 Pa	ge 41 of	48TW230
		CORPS	OF E	NGINEERS S SERVICES		Fort Wainwright, Alaska								Dat	
Soils	and (			Section	Drilling Age									Elevation Datum:	
l .				LOG	Location:	Northing: 3,966,849 ft Easting: 1,390,890 ft							Top of Hole Elevation: 451.8 ft		
Hole Number, Fi	eld:	Perman AP-79			Driller: Bill Tes	l ·						Inspector: Steve H	ensiee		
Type of Hole: ☐ other ☐ Monitoring Well ☐ Piezometer						' ' '						Depth Drill 49.5 ft	ed:	Total Depth: 51.5 ft	
Hammer Weight	<u>_</u> _	lit Spoon I		Size and Type of 8.0 in Rock Bit			T			uipm Soil M				Type of Sar Grab and	•
<del></del>	88 44.0	T		Classification	(00		Gra	in Siz						Description	and Remarks
Depth (ft) Lithology Sample	ASTM D 4083 Frost Class.	Blow Count	Symbol	ASTM: D 2487 or D 24	+00	3	%Gravel	%Sand	%Fines	Max Size (in)	PID (ppm)	% Water			
-34 0.	<u> </u>			_			,-								
-36 0 8 -36 0		7 13 8 8	SP	Poorty graded SAN	D with Gravel					0.8	0.5			line subroun nd, 2 feet of h	ded gravel, fine to eaving sand
- 38 · O															
-40 0 9		12 12 14 15	SP	Poorly graded SAN	D with Gravel	,				1.3	0.5		Gray, wet,		ded gravel, fine to
-42 · O	:	15		·						:					
44 . 0	·														e at 44.5 fee due to
-46°.0°													neaving s	and. 4 feet of	heaving sand
-48 · O ·															
_50 . O 10		13 13 21 21	SP	Poorty graded SAN	D with Grave	ı				2.0	0.6		Gray, wet		ded gravel, fine to
-52 54													Elevation Groundward depth 16.4	10 ft	red While Drilling: at
-56															
58															
- 58 - 58 - 60 - 62 - 64 - 64 - 64 - 64 - 64 - 80 - 80 - 90 - 90 - 90 - 90 - 90 - 90 - 90 - 9															
62 8 -					4						:				
64									,						
—66															
NPA Form 19-E May 94 Prev. Ec	d. Obsole	ete					ojec <i>FAI</i>		нои	SING	UPGR	ADE	- FTW230		Hole Number: AP-7945

Appendix C

**Analytical Data Tables** 

## Table 1 Ft. Wainwright Family Housing Revitalization Method AK101, Gasoline Range Organics Method AK102, Diesel Range Organics Method AK103, Residual Range Organics Method 8021B, BTEX January, 2001

		QC Dup	QA Dup	
LOCATION OF SAMPLE:	AP-7916	AP-7916	AP-7916	AP-7924
DATE OF SAMPLE:	1/19/01	1/19/01	1/19/01	1/23/01
TYPE OF SAMPLE:	Soil	Soil	Soil	Soil
DEPTH OF SAMPLE:(FEET)	9.5	9.5	9.5	4" - 6"
FIELD SAMPLE ID: 01FWHR-	01SL	02SL	03SL	08SL
TESTING LABORATORY:	LTL	LTL	CT&E	LTL
LABORATORY SAMPLE ID:	0101532-01	0101532-02	1010040001	0101532-06
DATE RECEIVED:	1/26/01	1/26/01	1/26/01	1/26/01
DATE ANALYZED:	1/30 - 31/01	1/30 - 31/01	2/1 - 6/01	1/30 - 31/01
CONCENTRATION UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Gasoline Range Organics	ND (2.4) J	ND (3.1) J	ND (5.39) R	ND (1.4)
Gasoline Range Organics	ND (2.4) J	ND (3.1) J	ND (5.39) R	ND (1.4)
Gasoline Range Organics  Diesel Range Organics	ND (2.4) J	ND (3.1) J	ND (5.39) R ND (14.8)	ND (1.4)
		, ,	, ,	, ,
		, ,	, ,	, ,
Diesel Range Organics	14	16	ND (14.8)	7.7
Diesel Range Organics	14	16	ND (14.8)	7.7
Diesel Range Organics Residual Range Organics	14 51	16 59	ND (14.8) ND (24.5)	7.7 19 ND (0.011)
Diesel Range Organics Residual Range Organics Benzene	14 51 ND (0.019) R	16 59 0.032 J	ND (14.8) ND (24.5) 0.0362 R	7.7 19 ND (0.011)
Diesel Range Organics Residual Range Organics Benzene Toluene	14 51 ND (0.019) R ND (0.029) R	16 59 0.032 J ND (0.037) J	ND (14.8) ND (24.5) 0.0362 R ND (0.108) R	7.7 19 ND (0.011) ND (0.017)
Diesel Range Organics Residual Range Organics Benzene Toluene Ethylbenzene	14 51 ND (0.019) R ND (0.029) R ND (0.019) R	16 59 0.032 J ND (0.037) J ND (0.025) J	ND (14.8) ND (24.5) 0.0362 R ND (0.108) R ND (0.108) R	7.7 19 ND (0.011) ND (0.017) ND (0.011)

LTL: Laucks Testing Laboratories, Seattle, WA.

CT&E: CT&E Environmental Services, Anchorage, AK.

J: Estimated Value.

R: Rejected due to low surrogate recoveries.

## Table 1 Ft. Wainwright Family Housing Revitalization Method AK101, Gasoline Range Organics Method AK102, Diesel Range Organics Method AK103, Residual Range Organics Method 8021B, BTEX January, 2001

		QC Dup	QA Dup	
LOCATION OF SAMPLE:	AP-7927	AP-7927	AP-7927	AP-7930
DATE OF SAMPLE:	1/24/01	1/24/01	1/24/01	1/25/01
TYPE OF SAMPLE:	Soil	Soil	Soil	Soil
DEPTH OF SAMPLE:	1	1	1	4.5
FIELD SAMPLE ID: 01FWHR-	11SL	12SL	13SL	18SL
TESTING LABORATORY:	LTL	LTL	CT&E	LTL
LABORATORY SAMPLE ID:	0101532-08	0101532-09	1010040003	0101597-01
DATE RECEIVED:	1/26/01	1/26/01	1/26/01	1/31/01
DATE ANALYZED:	1/30 - 31/01	1/30 - 31/01	1/31 - 2/5/01	2/5 - 8/01
CONCENTRATION UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Gasoline Range Organics	ND (1.4)	ND (1.4)	ND (3.09)	2.6 J
Diesel Range Organics	5.9	6.7	ND (10.2)	88 J
Residual Range Organics	28	28	ND (16.9)	290 J
Benzene	ND (0.011)	ND (0.011)	ND (0.0154)	0.022 J
Toluene	<b>N</b> D (0.017)	ND (0.017)	ND (0.0618)	0.023 J
Ethylbenzene	ND (0.011)	ND (0.011)	ND (0.0618)	ND (0.015)
m,p-Xylene (Sum of Isomers)	ND (0.023)	ND (0.022)	ND (0.0618)	ND (0.03)
o-Xylene	ND (0.011)	ND (0.011)	ND (0.0618)	ND (0.015)

LTL: Laucks Testing Laboratories, Seattle, WA.

CT&E: CT&E Environmental Services, Anchorage, AK.

J: Estimated Value.

Page 1 of 2 Table 2

Ft. Wainwright Family Housing Revitalization Method 8081A **Pesticides** January, 2001

	AD 7040	AD 7040	AD 7024
LOCATION OF SAMPLE:	AP-7918	AP-7919	AP-7924
DATE OF SAMPLE:	1/20/01	1/21/01	1/23/01 Soil
TYPE OF SAMPLE:	Soil	Soil	
DEPTH OF SAMPLE:(FEET)	4" - 6"	4" - 6"	0.5 - 1"
FIELD SAMPLE ID: 01FWHR-	04SL	06SL	07SL
TESTING LABORATORY:	LTL	LTL	LTL
LABORATORY SAMPLE ID:	0101532-03	0101532-04	0101532-05
DATE RECEIVED:	1/26/01	1/26/01	1/26/01
DATE ANALYZED:	2/2/01	2/2/01	2/2/01
CONCENTRATION UNITS:	µg/kg	µg/kg	µg/kg
-			ND (4.0)
4,4'-DDD	ND (5.5)	ND (7.7)	ND (4.3)
4,4'-DDE	ND (5.5)	250	42
4,4'-DDT	ND (5.5)	480	86
Aldrin	ND (2.8)	ND (4)	ND (2.2)
alpha-BHC	ND (2.8)	ND (4)	ND (2.2)
alpha-Chlordane	ND (2.8)	ND (4)	<b>N</b> D (2.2)
beta-BHC	ND (2.8)	ND (4)	ND (2.2)
delta-BHC	ND (2.8)	ND (4)	ND (2.2)
Dieldrin	<b>N</b> D (5.5)	ND (7.7)	ND (4.3)
Endosulfan I	ND (2.8)	ND (4)	ND (2.2)
Endosulfan II	ND (5.5)	ND (7.7)	ND (4.3)
Endosulfan sulfate	ND (5.5)	ND (7.7)	ND (4.3)
Endrin	ND (5.5)	ND (7.7)	ND (4.3)
Endrin aldehyde	ND (5.5)	ND (7.7)	ND (4.3)
Endrin ketone	ND (5.5)	ND (7.7)	ND (4.3)
gamma-BHC (Lindane)	ND (2.8)	ND (4)	ND (2.2)
gamma-Chlordane	ND (2.8)	ND (4)	ND (2.2)
Heptachlor	ND (2.8)	ND (4)	ND (2.2)
Heptachlor epoxide	ND (2.8)	ND (4)	ND (2.2)
Methoxychlor	ND (28)	ND (40)	ND (22)
Toxaphene	ND (280)	ND (400)	ND (220)

LTL: Laucks Testing Laboratories, Seattle, WA.

I able 2	
Ft. Wainwright Fam	ily Housing Revitalization
Method 8081A	e e
Pesticides	
Innuant 2001	

Page	2	of	2
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LOCATION OF SAMPLE:	AP-7926	QC Dup AP-7926	QA Dup AP-7926	AP-7937	AP-7942
DATE OF SAMPLE:	1/24/01	1/24/01	1/24/01	1/27/01	1/29/01
TYPE OF SAMPLE:	Soil	Soil	Soil	Soil	Soil
DEPTH OF SAMPLE:(FEET)	4" - 6"	4" - 6"	4" - 6"	4" - 6"	4" - 6"
FIELD SAMPLE ID: 01FWHR-	15SL	16SL	17SL	19SL	20SL
TESTING LABORATORY:	LTL	LTL	CTE	LTL	LTL
LABORATORY SAMPLE ID:	0101532-10	0101532-11	1010040004	0101597-02	0101597-03
DATE RECEIVED:	1/26/01	1/26/01	1/26/01	1/31/01	1/31/01
DATE ANALYZED:	2/2/01	2/2/01	2/8/01	2/9/01	2/9/01
CONCENTRATION UNITS:	μg/kg	μg/kg	μg/kg	µg/kg	μg/kg
CONCENTION ON CO.	Parna	Parra	P9///9	Parta	Fama
4,4'-DDD	ND (4.7)	ND (4.5)	ND (520]	ND (4.7)	ND (4.2)
4,4'-DDE	140	120	68.4 J	ND (4.7)	43 J
4,4'-DDT	230	200	113 J	ND (4.7)	230 J
Aldrin	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
alpha-BHC	ND (2.4)	ND (2.3)	ND (2.6)	ND (2.4)	ND (2.2)
alpha-Chlordane	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
beta-BHC	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
delta-BHC	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
Dieldrin	ND (4.7)	ND (4.5)	ND (2.6]	ND (4.7)	ND (4.2)
Endosulfan I	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
Endosulfan II	ND (4.7)	ND (4.5)	ND (2.6]	ND (4.7)	ND (4.2)
Endosulfan sulfate	ND (4.7)	ND (4.5)	ND (2.6]	ND (4.7)	ND (4.2)
Endrin	ND (4.7)	ND (4.5)	ND (2.6]	ND (4.7)	ND (4.2)
Endrin aldehyde	ND (4.7)	ND (4.5)	ND (2.6]	ND (4.7)	ND (4.2)
Endrin ketone	ND (4.7)	ND (4.5)	ND (2.6]	ND (4.7)	ND (4.2)
gamma-BHC (Lindane)	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
gamma-Chlordane	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
Heptachlor	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
Heptachlor epoxide	ND (2.4)	ND (2.3)	ND (2.6]	ND (2.4)	ND (2.2)
Methoxychlor	ND (24)	ND (23)	ND (2.6]	ND (24)	ND (22)
Toxaphene	ND (240)	ND (230)	ND (170]	ND (240)	ND (220)

LTL: Laucks Testing Laboratories, Seattle, WA.

CT&E: CT&E Environmental Services, Anchorage, AK.

J: Estimated Value.

Table 3	Page 1 of 4
Ft. Wainwright Family Housing Revitalization	
Method 6010A - Lead	
January, 2001	

		QC Dup	QA Dup	
LOCATION OF SAMPLE:	AP-7916	AP-7916	AP-7916	AP-7924
DATE OF SAMPLE:	1/19/01	1/19/01	1/19/01	1/23/01
TYPE OF SAMPLE:	Soil	Soil	Soil	Soil
DEPTH OF SAMPLE:	9.5	9.5	9.5	4" - 6"
FIELD SAMPLE ID: 01FWHR-	01SL	02SL	03SL	08SL
TESTING LABORATORY:	<b>LTL</b>	LTL	CTE	LTL
LABORATORY SAMPLE ID:	0101532-01	0101532-02	1010040001	0101532-06
DATE RECEIVED:	1/26/01	1/26/01	1/26/01	1/26/01
DATE ANALYZED:	2/5/01	2/5/01	2/6/01	2/5/01
CONCENTRATION UNITS:	mg/kg	mg/kg	mg/kg	mg/kg
Lead	5.9	4.9	ND (8.84)	7.6

## APPENDIX 5 Page 81

LTL: Laucks Testing Laboratories, Seattle, WA.

CT&E: CT&E Environmental Services, Anchorage, AK.

Case 3:05-cv-00263-JKS Document 17-14 Filed 10/31/2006 Page 48 of 48 FY01 REPLACEMENT FAMILY HOUSING FTW230

Table 3 Page 2 of 4

Ft. Wainwright Family Housing Revitalization Method 6010A - Lead January, 2001

		QC Dup	QA Dup
LOCATION OF SAMPLE:	AP-7926	AP-7926	AP-7926
DATE OF SAMPLE:	1/24/01	1/24/01	1/24/01
TYPE OF SAMPLE:	Soil	Soil	Soil
DEPTH OF SAMPLE:	4" - 6"	4" - 6"	4" - 6"
FIELD SAMPLE ID: 01FWHR-	15SL	16SL	17SL
TESTING LABORATORY:	LTŁ	LTL	CTE
LABORATORY SAMPLE ID:	0101532-10	0101532-11	1010040004
DATE RECEIVED:	1/26/01	1/26/01	1/26/01
DATE ANALYZED:	2/5/01	2/5/01	2/6/01
CONCENTRATION UNITS:	mg/kg	mg/kg	mg/kg
Lead	11.3	12.2	14.9

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LTL: Laucks Testing Laboratories, Seattle, WA.

CT&E: CT&E Environmental Services, Anchorage, AK.